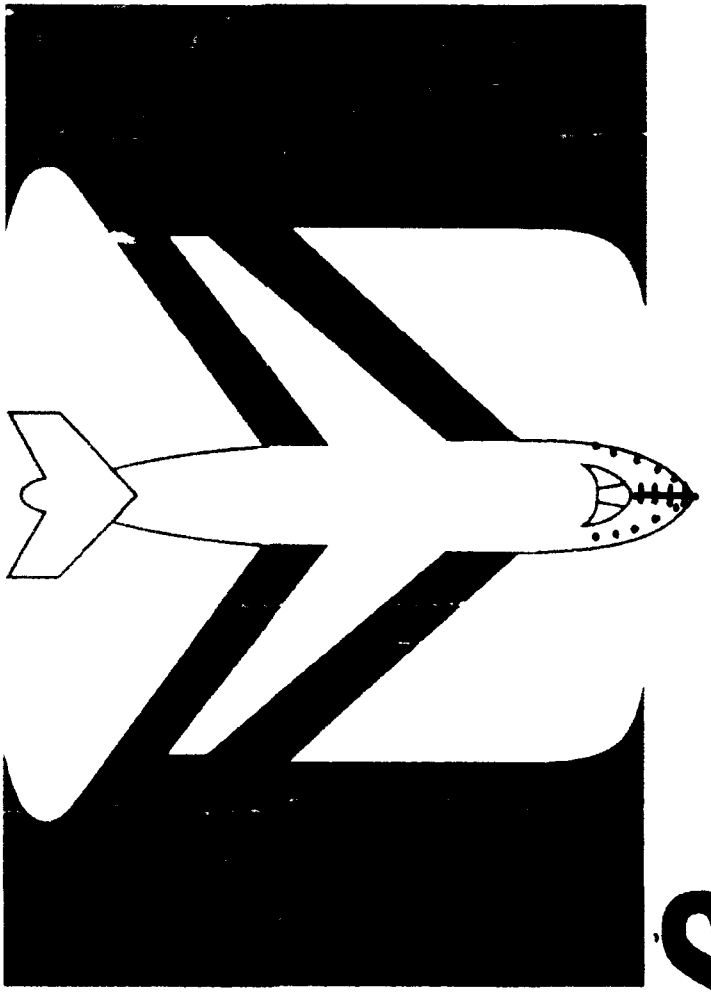
U.S. Department of Transportation
Federal Aviation Administration

FAA Statistical Handbook of Aviation

Calendar Year 1990



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of Transportation
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16 Abstract

This report presents statistical information pertaining to the Federal Aviation Administration, the National Airspace System, Airports, Airport Activity, U.S. Civil Air Carrier Fleet, U.S. Civil Air Carrier Operating Data, Airmen, General Aviation Aircraft, Aircraft Accidents, Aeronautical Production and Imports/Exports, and a Glossary of the terms used in this publication.

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Airport Activity Statistics of Certificated Route Air Carrier is a joint publication of the Federal Aviation Administration (FAA) and the Research & Special Programs Administration (RSPA). RSPA furnishes airport activity data on certificated route air carriers; FAA organizes/publishes it. Included in the data are passenger enplanements, tons of enplaned freight and mail. Scheduled/nonscheduled service shown by airport and carrier are also included. Breakdown of data includes departures/enplanements/cargo/mail by airport, carrier & type of operation, and type of aircraft.

Reporting period:	Calendar Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1991 information will be available:	July 1992
Date next publication is scheduled:	September 1992 (1991 data)
Person to contact:	Patricia Beardsley

Census of U.S. Civil Aircraft is an annual publication that includes statistical data on the registered civil fleet, air carrier aircraft, and general aviation aircraft—both registered and active, detailed reports for general aviation aircraft by owner's state and county, and registered aircraft by make and model.

Reporting period:	Calendar Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office, or National Technical Information Service
Date 1991 information will be available:	September 1992
Date next publication is scheduled:	November 1992 (1991 data)
Person to contact:	Patricia Beardsley

FAA Air Traffic Activity furnishes terminal and en route air traffic activity information (e.g., takeoffs & landings, flight plans filed) of the National Airspace System. The data is collected/compiled from the FAA—operated Airport Traffic Control Towers, Air Route Traffic Control Centers, Flight Service Stations, Approach Control Facilities, and FAA Contract—towered airports.

Reporting period:	Fiscal Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1991 information will be available:	February 1992
Date next publication is scheduled:	June 1992 (1991 data)
Person to contact:	Nancy Trembley

FAA Statistical Handbook of Aviation is a convenient source for historical data. It presents statistical information pertaining to the Federal Aviation Administration, the National Airspace System, Airports, Airport Activity, U.S. Civil Air Carrier Fleet, U.S. Civil Air Carrier Operating Data, Airmen, General Aviation Aircraft, Aircraft Accidents, Aeronautical Production & Import/Export.

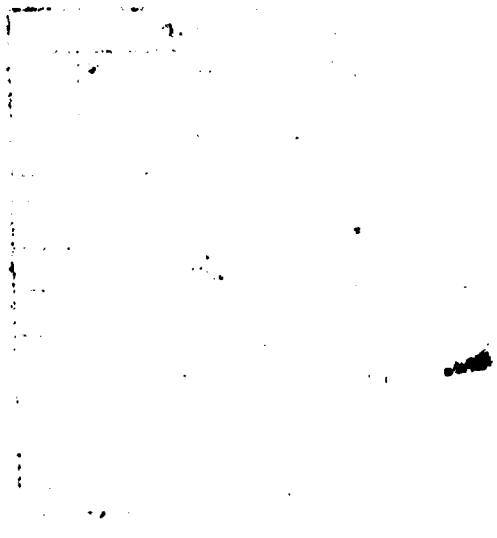
Reporting period:	Calendar Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1991 information will be available:	Various
Date next publication is scheduled:	December 1992 (1991 data)
Person to contact:	Patricia Beardsley

General Aviation Activity and Avionics Survey publication presents the results of the general aviation activity and avionics survey conducted to obtain information on the activity and avionics of the U.S. registered general aviation aircraft fleet. The survey reveals estimated flying time of the active general aviation aircraft, and other statistics by manufacturer/model group, aircraft type, state and region of based aircraft, and primary use. Estimates are included on fuel consumption, lifetime airframe hours, avionics, and engine hours.

Reporting period:	Calendar Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1991 information will be available:	August 1992
Date next publication is scheduled:	November 1992 (1991 data)
Person to contact:	Shung-Chai Huang

General Aviation Pilot and Aircraft Activity Survey includes data on the type and source of aircraft flight plan and weather information services, trip length in time and distance, pilots age and certification, estimates of total 1990 general aviation operations, fuel consumption and aircraft miles flown. The survey was conducted from June through September 1990 by the Federal Aviation Administration with the assistance of the Civil Air Patrol.

Reporting period:	Calendar Year
Latest edition:	1990 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1993 information will be available:	March 1994
Date next publication is scheduled:	May 1994 (1993 data)
Person to contact:	Shung-Chai Huang



Rotorcraft Activity Survey presents the results of a special one-time survey. The report contains breakdowns of active rotorcraft, annual flight hours, average flight hours, and other statistics by rotorcraft type, manufacture/model group, region and state of based aircraft, and primary use. Also included are law enforcement and public use rotorcraft, lifetime airframe hours, engine hours, estimated miles flown, and estimated number of landings.

Edition:	Calendar Year 1989
Order from:	Management Standards Statistics Division or National Technical Information Service
Person to contact:	Patricia Beardsley

U.S. Civil Airmen Statistics is an annual study of detailed airmen statistics. It contains calendar year statistics on pilot and nonpilots and the number of certificates issued.

Latest edition:	Calendar Year 1990
Order from:	Management Standards Statistics Division or National Technical Information Service
Date 1991 information will be available:	February 1992
Date next publication is scheduled:	April 1992 (1991 data)
Person to contact:	Patricia Carter

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PREFACE

The FAA Statistical Handbook of Aviation is published annually by the Federal Aviation Administration (FAA). Its prime purpose is to serve as a convenient source for historical data and to assist in evaluating progress.

The Handbook should provide a valuable source of information for the Department of Transportation (DOT), operating offices of the FAA, the Research and Special Programs Administration (RSPA), and other government agencies, as well as nongovernment organizations interested in aviation.

Chapter I deals with the FAA and its functions. This section also includes a comparison of the agency's appropriations and the agency's personnel complement.

National Airspace System data reflecting the fiscal and calendar year workload of the FAA air traffic facilities—terminal and en route are contained in Chapter II. This chapter contains air traffic activity reported by FAA-operated airport traffic control towers, air route traffic control centers, and domestic and international flight service stations.

Selected statistics concerning the Nation's airport facilities by state within FAA regions are presented in Chapter III. In addition to the total count of these facilities, this chapter includes statistics pertaining to the physical characteristics (paved vs. unpaved runways, lighted vs. unlighted runways, length of runways, etc.), and funds allocated for airport development.

Airline passenger, cargo, and freight statistics shown in Chapter IV were prepared from data published in Airport Activity Statistics of Certificated Route Air Carriers, which is issued jointly by the RSPA and the FAA. This chapter covers the activity of the large scheduled certificated U.S. air carriers only.

The U.S. civil air carrier fleet is described in detail in Chapter V. These statistics were developed from monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

U.S. civil air carrier operating data—revenue passenger miles flown, available seat-miles, enplanements, revenue ton-miles flown, revenue aircraft miles flown, and operating revenues and expenses of the large certificated air carriers—are presented in Chapter VI. These statistics were obtained from forms submitted by the large certificated U.S. air carriers to the RSPA. Also included in Chapter VI are traffic statistics for the small certificated and commuter air carriers.

The airmen data shown in Chapter VII were obtained from official airmen certification records maintained by the FAA's Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. These data included the number of airmen as of the end of each year and the number of certificates issued during the year.

The general aviation aircraft data presented in Chapter VIII were collected from the General Aviation Activity and Avionics Survey. Numbers of active aircraft and hours flown are shown for each aircraft type, use category and state.

Aircraft accident information for air carriers, commuters, air taxis, and general aviation, appear in Chapter IX. These data were furnished by the National Transportation Safety Board (NTSB).

Aeronautical production and imports/exports are summarized in Chapter X. The production information was obtained from reports submitted to the U.S. Bureau of the Census by all known producers of complete aircraft and aircraft engines. Import/export data were obtained through Aerospace Industries Association, Inc. based on Bureau of the Census data from special monthly compilation of annual reports FT-446 and FT-410, respectively.

The FAA Statistical Handbook of Aviation is prepared by the Statistical Analysis Branch, Management Standards and Statistics Division, Office of Information Technology, with the cooperation of other FAA offices. Special appreciation is expressed to the Research and Special Programs Administration, U.S. Bureau of the Census, the National Transportation Safety Board, and many municipalities and private organizations for their assistance.

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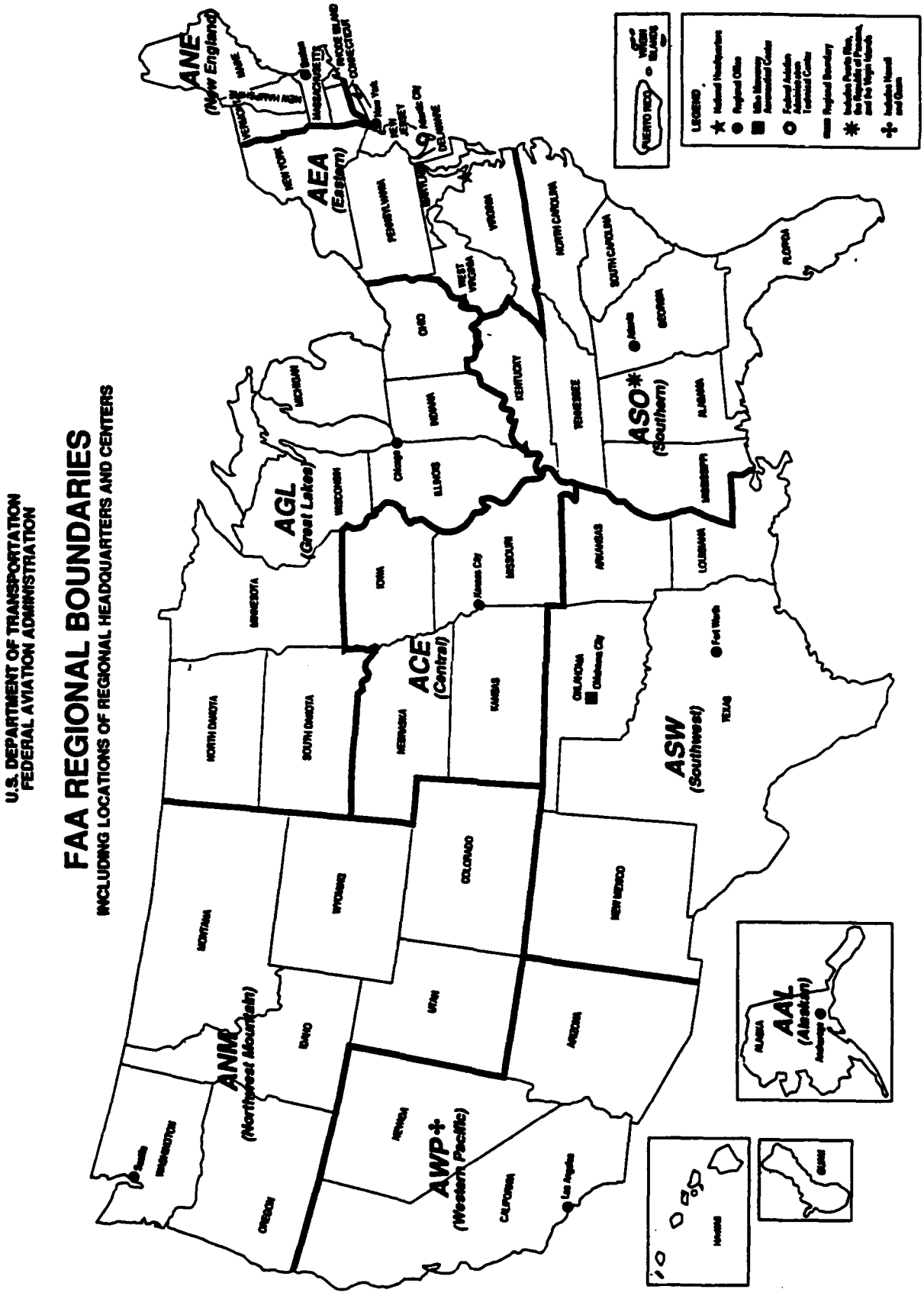
INSERT GRAPHIC "FAA REGIONAL BOUNDARIES"



I. THE FEDERAL AVIATION ADMINISTRATION

The Department of Transportation Act of 1966 established a new executive department known as the Department of Transportation. The general welfare, economic growth, stability, and security of the nation pointed to the need for the development of national transportation policies and programs effectively using the nation's transportation resources. The Act provided for inclusion of the Federal Aviation Agency in the Department as the Federal Aviation Administration.

Directed by an Administrator, who is appointed by the President, by and with the advice and consent of the Senate, the FAA has as its primary function the fostering of the development and safety of American aviation. More specifically, the FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; providing for the most effective and efficient use of the airspace over the United States; and for the rule making responsibilities relative to these functions.

The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; it allocates and regulates the use of the airspace; it ensures adequate separation between aircraft operating in controlled airspace; and, through research and development programs, it provides new systems and equipment for improving utilization of the nation's airspace.

The Federal Aid to Airports Program (FAAP) authorized the FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. Under FAAP, approximately $1.2 billion were granted by FAA to airport sponsors for airport development purposes from 1947 through 1970. FAAP was superseded by the Airport Development Act of 1970, the Airport and Airway Improvement Act of 1982, and the Airport and Airway Safety and Capacity Expansion Act of 1987 which amended the Airport and Airway Improvement Act of 1982.

The FAA prescribes and administers rules and regulations concerning airmen competency, aircraft airworthiness, and air traffic control. It promotes safety through certification of airmen, aircraft, and flight and aircraft maintenance schools. It reviews the design, structure, and performance of new aircraft to insure the safety of the flying public.

Services provided by FAA toward the development of aviation and air commerce include:

- Dissemination of news and information on civil aviation generally.
- Publication of flight information data for pilots.
- Technical aviation assistance to other governments, operation of overseas civil aviation missions, and the aviation training of foreign nationals.
- Development of medical standards for airmen through aviation medical research.
- Research and development in the field of aeronautics and electronics.
- Other activities required to encourage and foster the worldwide development of civil aviation and air commerce.

Policies governing these programs are developed in the Washington headquarters of FAA, and are executed by field employees.

The FAA has nine regional offices strategically located throughout the United States as well as the FAA Technical Center at Atlantic City, New Jersey, and the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

TABLE 1.1
FAA BUDGET AUTHORITY
FISCAL YEARS 1987–1991
($ IN MILLIONS)

Appropriation	1987	1988	1989	1990	1991
Total	**$4,946.10**	**$6,147.00**	**$6,589.70**	**$7,368.00**	**$7,937.00**
Operations (General Fund)	$2,302.80	$2,322.60	$2,974.20	$3,018.20	$2,034.00
Operations (Airport and Airway Trust Fund)	$621.20	$827.40	$471.30	$807.20	$2,003.00
Headquarters Administration	$35.10	$35.50	$0.0 [1]	$0.0 [1]	$0.0 [1]
Facilities and Equipment (Airport and Airway Trust Fund)	$804.60	$1,108.10	$1,384.20	$1,721.20	$2,095.40
Grants-in-Aid for Airports (Airport and Airway Trust Fund)					
Contract Authority	$1,017.20	$1,688.00	$1,600.00	$1,651.20	$1,600.00
(Obligation Limitation)	($1,025.00)	($1,268.70)	($1,400.00)	($1,425.00)	($1,800.00)
Research, Engineering and Development (Airport and Airway Trust Fund)	$141.70	$153.40	$160.00	$170.20	$205.00
Metropolitan Washington Airports	$23.50	$0.0 [2]	$0.0 [2]	$0.0 [2]	$0.0 [2]

[1] Metropolitan Washington Airports transferred to Regional Authority, June 1987.
[2] Headquarters Administration included in the Operations appropriation in fiscal years 1989–1991

TABLE 1.2
FAA CIVILIAN EMPLOYEES AT END OF FISCAL AND CALENDAR YEARS 1981 - 1990
(SEE NOTE BELOW)

Date	FAA Total Paid	Full Time Permanent			
		Washington Office	Washington Field [1]	Other Field	Total
Sep-81	42,590	1,951	185	39,123	41,259
Dec-81	44,640	1,940	190	40,378	42,508
Sep-82	46,511	1,868	173	42,929	44,970
Dec-82	46,897	1,866	168	43,415	45,449
Sep-83	46,922	1,906	155	45,317	45,317
Dec-83	46,993	1,911	144	43,266	45,321
Sep-84	47,216	1,943	116	43,733	45,792
Dec-84	47,178	1,959	130	43,810	45,899
Sep-85	47,138	2,012	132	43,651	45,795
Dec-85	47,245	2,033	136	43,660	45,829
Sep-86	46,682	2,022	140	43,477	45,639
Dec-86	46,809	2,050	144	43,438	45,632
Sep-87	47,897	2,142	152	44,204	46,498
Dec-87	47,907	2,156	157	44,148	46,461
Sep-88	49,002	2,267	159	45,119	47,545
Dec-88	49,210	2,315	158	45,237	47,710
Sep-89	50,875	2,474	159	46,753	49,386
Dec-89	50,977	2,630	172	46,716	49,518
Sep-90	52,010	2,809	197	47,635	50,641
Dec-90	51,269	2,849	213	46,916	49,978

[1] Beginning with 1981 employees from National and Dulles Airports are reported under Other Field. In 1987, these employees were transfered to the Regional Authority.

NOTE: FAA Total Paid includes full-time, part-time, and intermittent. Full-time includes permanent paid full-time employees who occupy permanent positions.

Washington Office includes all paid Washington headquarters employees whose duty station is Washington, D.C.

Washington Field includes all paid Washington, D.C. employees in other states, or foreign countries.

Other Field includes all paid employees whose duty stations are in the regions or centers.

TABLE 1.3
NUMBER OF TOTAL PAID FAA EMPLOYEES AS OF DECEMBER 31, 1981–1990

Occupation	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total	44,640	46,897	46,993	47,178	47,245	46,809	47,907	49,210	50,977	51,269
Air Traffic Control Specialists	17,418	20,906	21,271	21,759	22,114	22,036	22,651	23,520	24,368	24,339
Electronics Technicians	8,432	8,031	7,633	7,229	6,856	6,600	6,788	6,627	6,508	6,458
Aviation Safety Inspectors	1,942	1,835	1,805	1,945	1,897	2,204	2,350	2,499	2,766	2,964
Engineers	2,274	2,238	2,313	2,419	2,450	2,417	2,579	2,640	2,657	2,736
All Others	14,574	13,887	13,971	13,826	13,928	13,552	13,539	13,924	14,678	14,752

II. THE NATIONAL AIRSPACE SYSTEM

This chapter furnishes terminal and en route air traffic activity information for the National Airspace System for fiscal and calendar years. The data have been reported by the FAA-operated Airport Traffic Control Towers, Air Route Traffic Control Centers, and flight service facilities (Flight Service Stations, Automated Flight Service Stations and International Flight Service Stations). These reports are used as a guide in determining the need for larger or additional facilities, and possible changes in the number of personnel at existing facilities.

Terminal information includes airport operations, instrument operations, and instrument approaches. Airport operations are landings and takeoffs. They are reported by towers by aviation categories--air carrier, air taxi, general aviation, and military. Instrument operations are takeoffs, landings, and overflights of aircraft operating in accordance with an IFR flight plan. Instrument approaches are approaches made to an airport by an aircraft on an IFR flight plan under IFR weather conditions.

Data for Air Route Traffic Control Centers (ARTCCs) include departures, overflights, and aircraft handled.

Activities for Flight Service Stations, including Automated Flight Service Stations and International Flight Service Stations include flight plans originated, airport advisories, pilot briefs, and aircraft contacted.

More detailed data pertaining to activity of these facilities may be found in *FAA Air Traffic Activity.*

TABLE 2.1 [1]
U.S. AIR ROUTE AIRWAY MILEAGE: 1981–1989
(Contiguous 48 States)

December 31	Very High Frequency VOR/VORTAC		
	Low Altitude		Jet Routes
	Direct	Alternate	
1981	160,823	29,137	138,550
1982	167,637	20,067	138,438
1983	169,471	15,359	139,477
1984	171,873	12,188	141,199
1985	182,182	3,306	142,658
1986	184,229	905	146,869
1987	184,644	543	147,678
1988	185,166	543	149,057
1989	185,637	470	150,496
1990	NA	NA	NA

[1] Mileage shown in nautical miles based on National Ocean Survey figures.
NA—No longer available

TABLE 2.2
FAA AIR ROUTE FACILITIES AND SERVICES: 1981–1990

December 31	VOR/ VORTAC	Nondirectional Radio Beacons	Air Route Traffic Control Centers	Airport Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	Radar Equipment
1981	1,033	1,123	25	501	316	6	840	199
1982	1,029	1,143	25	492	316	6	884	197
1983	1,032	1,183	25	494	316	5	934	197
1984	1,035	1,211	25	497	310	5	955	197
1985	1,039	1,222	25	500	302	4	968	198
1986	1,043	1,239	25	686	293	3	977	312
1987	1,045	1,262	25	686	253	3	1,111	312
1988	1,043	1,287	24	692	220	3	1,130	311
1989	1,044	1,263	24	693	199	3	1,147	312
1990	1,044 [1]	1,309 [2]	24 [3]	691 [4]	180	3	1,114 [5]	317 [6]

[1] Includes 73 nonfederal and 38 military.
[2] Includes 934 nonfederal and 69 military.
[3] Includes 3 combined center/radar approach control facilities (CERAP).
[4] Includes 64 nonfederal and 208 military.
[5] Includes 21 Landing Directional Aids (LDA), 154 nonfederal, 23 military, 195 partial, 6 Interim Microwave Landing Systems (ISMLS), and 31 Simplified Direction Finders (SDF).
[6] Includes FAA, military and nonfederal.

FISCAL YEARS

(TABLES 2.3–2.10)

TABLE 2.3
AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY FISCAL YEARS 1986–1990

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled [1]	1990	37,557,043	3%	18,545,718	6%	5,633,464	9%	7,931,305	-3%	5,446,556	-5%
	1989	36,617,064	1%	17,524,155	-2%	5,187,998	-11%	8,197,964	2%	5,706,947	25%
	1988	36,350,374	2%	17,885,859	5%	5,834,717	10%	8,053,133	-1%	4,576,665	-14%
	1987	35,794,403	5%	17,115,080	7%	5,283,267	5%	8,102,631	1%	5,293,425	4%
	1986	34,177,045	4%	16,009,336	9%	5,020,069	5%	8,054,741	-3%	5,092,899	3%
IFR Departures	1990	14,123,535	2%	6,348,263	5%	2,649,292	7%	3,299,757	-3%	1,826,223	-5%
	1989	13,856,587	+ [3]	6,045,411	-2%	2,467,571	-10%	3,418,090	2%	1,925,515	-22%
	1988	13,803,103	+ [3]	6,146,443	2%	2,741,782	12%	3,355,842	-1%	2,458,714	5%
	1987	13,768,267	4%	6,043,020	6%	2,458,714	5%	3,392,926	- [3]	1,873,607	5%
	1986	13,245,340	4%	5,719,626	9%	2,335,006	5%	3,398,856	-4%	1,791,852	2%
IFR Overs [2]	1990	9,309,973	5%	5,849,192	8%	334,880	32%	1,331,791	-2%	1,794,110	-3%
	1989	8,903,890	2%	5,433,333	-3%	252,856	-28%	1,361,784	2%	1,855,917	27%
	1988	8,744,168	6%	5,592,973	11%	351,153	-4%	1,341,449	2%	1,458,593	-6%
	1987	8,257,869	7%	5,029,040	10%	365,839	5%	1,316,779	5%	1,546,211	2%
	1986	7,686,365	8%	4,570,084	11%	350,057	6%	1,257,029	- [3]	1,509,195	4%

[1] The number of IFR Departures multiplied by two, plus the number of IFR Overs.
[2] Domestic plus oceanic overs.
[3] Less than 0.5 percent.

TABLE 2.4
AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS, BY AVIATION CATEGORY FISCAL YEARS 1986–1990

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1990	63,668,880	4%	12,858,718	3%	8,837,671	7%	39,169,795	4%	2,802,696	1%
	1989	61,345,173	+ [1]	12,519,891	-2%	8,296,725	1%	37,753,005	1%	2,775,552	- [1]
	1988	61,299,017	1%	12,752,997	-2%	8,255,279	12%	37,503,249	-1%	2,787,492	2%
	1987	60,976,559	3%	13,062,061	6%	7,347,057	6%	37,830,524	2%	2,736,917	4%
	1986	58,956,464	2%	12,300,371	9%	6,915,478	- [1]	37,100,657	- [1]	2,639,958	4%
Itinerant Operations	1990	45,609,732	3%	12,858,718	3%	8,837,671	7%	22,479,781	2%	1,433,562	1%
	1989	44,307,914	- [1]	12,519,891	-2%	8,296,725	1%	22,078,592	- [1]	1,412,706	- [1]
	1988	44,521,425	1%	12,752,997	-2%	8,255,279	12%	22,096,026	+ [1]	1,417,123	3%
	1987	43,869,898	3%	13,062,061	6%	7,347,057	6%	22,078,782	1%	1,381,998	2%
	1986	42,515,777	2%	12,300,371	9%	6,915,478	- [1]	21,942,188	-2%	1,357,740	5%
Local Operations	1990	18,059,148	6%	—	—	—	—	16,690,014	6%	1,369,134	- [1]
	1989	17,037,259	2%	—	—	—	—	15,674,413	2%	1,362,846	-1%
	1988	16,777,592	-2%	—	—	—	—	15,407,223	-2%	1,370,369	1%
	1987	17,106,661	4%	—	—	—	—	15,751,742	4%	1,354,919	6%
	1986	16,440,687	2%	—	—	—	—	15,158,469	2%	1,282,218	2%

[1] Less than 0.5 percent.

TABLE 2.5
AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY FISCAL YEARS 1986–1990

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1990	46,866,201	4%	13,999,470	3%	9,382,285	9%	19,084,764	2%	4,399,682	4%
	1989	45,225,344	2%	13,567,597	1%	8,625,280	2%	18,794,460	3%	4,238,007	-4%
	1988	44,544,281	3%	13,422,772	-2%	8,449,004	15%	18,269,083	2%	4,403,422	-1%
	1987	43,407,628	7%	13,730,330	8%	7,320,676	10%	17,914,358	7%	4,442,264	3%
	1986	40,466,365	5%	12,752,823	9%	6,626,572	4%	16,787,756	2%	4,299,214	4%
Total Instrument Approaches	1990	2,130,532	-8%	703,116	-19%	525,242	3%	811,899	2%	90,275	-35%
	1989	2,308,880	21%	865,456	25%	509,982	14%	793,572	20%	139,870	25%
	1988	1,914,612	-17%	692,218	-20%	447,950	-7%	662,965	-19%	111,479	-17%
	1987	2,306,401	-10%	870,189	-14%	483,441	-4%	818,163	-12%	134,608	-3%
	1986	2,570,631	17%	1,003,540	31%	501,474	8%	927,007	11%	138,610	9%
Total Instrument Approaches at Control Facilities [1]	1990	1,904,416	-10%	687,871	-19%	457,859	1%	684,641	-2%	74,045	-40%
	1989	2,126,745	23%	853,328	26%	452,821	20%	697,751	23%	122,845	24%
	1988	1,723,434	-19%	678,902	-20%	378,679	-11%	567,154	-22%	98,699	-20%
	1987	2,123,347	-11%	853,670	-14%	423,214	-4%	723,447	-13%	123,016	-3%
	1986	2,384,088	17%	987,835	31%	440,339	8%	829,273	11%	126,641	10%

[1] Excludes instrument approaches provided by Air Route Traffic Control Centers.

TABLE 2.6
AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES FISCAL YEARS 1986–1990

	Year	Flight Services [1]		Flight Plans Originated						Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1990	42,943,565	-5%	6,954,629	-6%	5,309,871	-7%	1,644,958	-2%	1,600,102	-5%	11,490,723	-4%
	1989	44,982,988	+ [2]	7,399,246	-2%	5,717,061	-2%	1,682,185	-2%	1,678,654	-14%	12,012,369	3%
	1988	44,849,559	-6%	7,551,660	-1%	5,837,514	-2%	1,714,146	1%	1,953,323	-19%	11,658,729	-9%
	1987	47,747,493	-3%	7,643,574	2%	5,943,542	1%	1,700,032	5%	2,414,289	-7%	12,750,575	-5%
	1986	48,982,535	-7%	7,517,796	-6%	5,896,633	-6%	1,621,163	-5%	2,595,833	-8%	13,381,434	-8%
International Flight Service Stations	1990	1,639,566	2%	362,316	6%	221,382	17%	140,934	-7%	3,401	-53%	317,197	6%
	1989	1,608,231	10%	341,132	7%	189,654	17%	151,478	-3%	7,222	27%	300,360	12%
	1988	1,468,138	2%	318,729	1%	162,314	7%	156,415	-5%	5,707	-29%	267,199	11%
	1987	1,438,354	-8%	315,299	-1%	151,314	6%	163,985	-6%	8,039	-11%	241,320	-12%
	1986	1,562,753	-25%	317,233	-17%	142,558	-21%	174,675	-13%	9,062	-3%	274,015	-37%

[1] The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.7). No credit is allowed for airport advisories.
[2] Less than 0.5 percent.

TABLE 2.7
AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY FISCAL YEARS 1986–1990

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Flight	1990	6,052,461	-2%	240,744	-4%	803,627	-5%	4,581,388	-1%	426,702	-1%
Service	1989	6,159,758	-4%	250,448	-12%	842,529	-8%	4,636,741	-4%	430,040	2%
Stations	1988	6,428,781	-8%	284,210	-20%	911,119	-4%	4,811,707	-8%	421,745	-6%
	1987	6,959,195	-3%	354,388	-5%	948,407	-5%	5,208,721	-3%	447,679	4%
	1986	7,184,075	-7%	372,223	-4%	998,498	-9%	5,382,619	-8%	430,735	1%
IFR–DVFR	1990	1,809,935	-5%	232,102	-2%	407,551	-2%	1,004,934	-8%	165,348	-1%
	1989	1,904,467	2%	236,663	-14%	414,032	-2%	1,086,693	6%	167,079	9%
	1988	1,872,454	-8%	275,321	-17%	422,651	- [1]	1,020,546	-10%	153,936	-3%
	1987	2,042,270	-2%	331,368	-4%	423,643	-2%	1,129,239	-3%	158,020	9%
	1986	2,087,519	-6%	345,735	-1%	432,683	-6%	1,163,883	-7%	145,218	-3%
VFR	1990	4,242,526	- [1]	8,642	-37%	396,076	-8%	3,576,454	1%	261,354	-1%
	1989	4,255,291	-7%	13,785	55%	428,497	-12%	3,550,048	-6%	262,961	-2%
	1988	4,556,327	-7%	8,889	-61%	488,468	-7%	3,791,161	-7%	267,809	-8%
	1987	4,916,925	-4%	23,020	-13%	524,764	-7%	4,079,482	-3%	289,659	1%
	1986	5,096,556	-8%	26,488	-29%	565,815	-12%	4,218,736	-8%	285,517	4%
International	1990	280,540	-14%	11,827	-8%	45,951	-33%	213,944	-9%	8,818	23%
Flight	1989	325,247	11%	12,904	+ [1]	68,793	-11%	236,361	20%	7,189	10%
Service	1988	293,058	-10%	12,861	14%	77,175	-22%	196,503	-5%	6,519	-3%
Stations	1987	325,116	-15%	11,251	6%	99,531	-32%	207,605	-4%	6,729	3%
	1986	380,257	-18%	10,649	16%	147,159	-5%	215,941	-26%	6,508	-14%
IFR–DVFR	1990	41,624	-7%	11,781	-8%	6,783	-4%	19,816	-9%	3,244	15%
	1989	44,584	12%	12,838	+ [1]	7,071	28%	21,848	16%	2,827	10%
	1988	39,838	8%	12,837	20%	5,541	33%	18,901	-3%	2,559	-3%
	1987	36,995	-1%	10,712	3%	4,171	40%	19,461	-10%	2,651	17%
	1986	37,221	-3%	10,415	17%	2,979	-42%	21,562	-2%	2,265	-10%
VFR	1990	238,916	-15%	46	-30%	39,168	-37%	194,128	-10%	5,574	28%
	1989	280,663	11%	66	175%	61,722	-14%	214,513	21%	4,362	10%
	1988	253,220	-12%	24	-96%	71,634	-25%	177,602	-6%	3,960	-3%
	1987	288,121	-16%	539	30%	95,360	-34%	188,144	-3%	4,078	-4%
	1986	343,036	-19%	234	9%	144,180	-3%	194,379	-28%	4,243	-16%

[1] Less than 0.5 percent.

TABLE 2.8
TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF TOTAL OPERATIONS AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK
FISCAL YEAR 1990

Tower	Total		Air Carrier		Air Taxi	General Avation	Military
	Rank	Operations	Rank	Operations			
Chicago O'Hare Int'l	1	810,911	1	632,838	147,443	27,370	3,260
Atlanta Int'l	2	779,472	2	572,885	181,900	23,162	1,525
Dallas Ft. Worth Reg'l	3	724,786	3	532,911	174,378	16,541	956
Los Angeles Int'l	4	668,816	4	450,418	162,508	51,301	4,589
Santa Ana	5	522,833	57	60,497	32,596	428,296	1,444
Van Nuys	6	516,736	304	2	639	515,718	377
Phoenix Sky Harbor Int'l	7	497,065	7	293,670	76,924	117,175	9,296
Long Beach	8	482,529	86	28,281	3,674	448,179	2,395
Denver Stapleton Int'l	9	474,922	6	303,988	129,911	39,368	1,655
Miami Int'l	10	463,066	10	278,754	99,544	77,542	7,226
Charlotte Douglas	11	452,436	15	243,209	123,209	81,118	4,900
Boston Logan	12	448,137	14	246,622	157,695	43,276	544
St. Louis Int'l	13	442,642	8	284,995	108,480	39,032	10,135
San Francisco	14	436,955	5	313,300	77,617	43,464	2,574
Fort Worth Meacham	15	435,045	232	174	1,687	432,542	642
Seattle Boeing	16	425,548	159	5,691	18,726	396,778	4,353
Honolulu	17	406,825	22	194,000	56,909	117,918	37,998
Philadelphia Int'l	18	405,089	17	221,676	128,002	54,440	971
Las Vegas McCarran	19	394,873	20	198,083	79,804	111,712	5,274
Detroit Metro Wayne Co.	20	391,165	9	279,148	56,001	55,796	220
Oakland Int'l	21	389,144	46	84,945	54,540	247,941	1,718
Pittsburgh Greater Int'l	22	384,510	13	256,418	98,074	23,561	6,457
Newark	23	384,148	12	271,862	88,328	23,275	683
Minneapolis St. Paul Int'l	24	382,046	16	226,821	80,533	71,833	2,859
Pontiac	25	373,719	241	94	4,916	367,804	905

NOTE: Total Operations rank was based on total air traffic activity at *402 FAA-Operated Towers*. Air Carrier operations rank was based on air carrier activity at 309 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.9
TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF AIR CARRIER OPERATIONS AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK
FISCAL YEAR 1990

Tower	Air Carrier		Air Taxi	General Avation	Military	Total	
	Rank	Operations				Rank	Operations
Chicago O'Hare Int'l	1	632,838	147,443	27,370	3,260	1	810,911
Atlanta Int'l	2	572,885	181,900	23,162	1,525	2	779,472
Dallas Ft. Worth Reg'l.	3	532,911	174,378	16,541	956	3	724,786
Los Angeles Int'l	4	450,418	162,508	51,301	4,589	4	668,816
San Francisco	5	313,300	77,617	43,464	2,574	14	436,955
Denver Stapleton Int'l	6	303,988	129,911	39,368	1,655	9	474,922
Phoenix Sky Harbor Int'l	7	293,670	76,924	117,175	9,296	7	497,065
St. Louis Int'l	8	284,995	108,480	39,032	10,135	13	442,642
Detroit Metro Wayne Co.	9	279,148	56,001	55,796	220	20	391,165
Miami Int'l	10	278,754	99,544	77,542	7,226	10	463,066
La Guardia	11	273,682	67,672	23,129	482	27	364,965
Newark	12	271,862	88,328	23,275	683	23	384,148
Pittsburgh Greater Int'l	13	256,418	98,074	23,561	6,457	22	384,510
Boston Logan	14	246,622	157,695	43,276	544	12	448,137
Charlotte Douglas	15	243,209	123,209	81,118	4,900	11	452,436
Minneapolis St. Paul Int	16	226,821	80,533	71,833	2,859	24	382,046
Philadelphia Int'l	17	221,676	128,002	54,440	971	18	405,089
John F. Kennedy Int'l	18	219,497	102,020	20,094	664	30	342,275
Houston Intercontinental	19	215,990	51,192	41,840	1,455	37	310,477
Las Vegas McCarran	20	198,083	79,804	111,712	5,274	19	394,873
Washington National	21	196,536	59,112	64,428	290	34	320,366
Honolulu	22	194,000	56,909	117,918	37,998	17	406,825
Seattle Tacoma	23	191,97	150,814	11,349	287	29	354,428
Memphis Int'l	24	184,339	69,772	69,237	6,589	31	329,937
Orlando Int'l	25	181,345	61,402	31,427	3,625	46	277,799

NOTE: Total Operations rank was based on total air traffic activity at 400 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 309 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.10
TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS, AND INTERNATIONAL FLIGHT SERVICE STATIONS
FISCAL YEAR 1990

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Station	Flight Service Station	Int'l Flight Service Station
TOTAL	**63,668,880**	**37,557,043**	**6,052,461**	**280,540**	**42,943,565**	**1,639,566**
Alaskan—Total	**1,052,497**	**483,397**	**955,464**	**—**	**2,245,522**	**—**
Central—Total	**2,390,497**	**1,701,253**	**345,233**	**—**	**3,043,209**	**—**
Iowa	438,094	—	54,811	—	584,001	—
Kansas	507,645	—	73,477	—	599,495	—
Missouri	1,152,422	1,701,253	151,937	—	1,448,605	—
Nebraska	292,336	—	65,008	—	411,108	—
Eastern—Total	**8,275,699**	**4,220,373**	**496,137**	**—**	**5,678,115**	**—**
Delaware	202,004	—	—	—	—	—
District of Columbia	320,366	2,247,165	83,221	—	1,102,497	—
Maryland	523,813	—	48,875	—	101,809	—
New Jersey	1,356,138	—	58,976	—	938,462	—
New York	2,552,106	1,973,208	80,085	—	1,237,671	—
Pennsylvania	1,971,569	—	129,102	—	1,552,042	—
Virginia	975,718	—	15,269	—	215,111	—
West Virginia	373,985	—	80,609	—	530,523	—
Great Lakes—Total	**9,962,307**	**8,746,733**	**722,835**	**—**	**6,953,559**	**—**
Illinois	2,880,851	2,624,504	93,116	—	1,040,408	—
Indiana	824,388	1,988,537	66,613	—	867,351	—
Michigan	2,040,619	—	97,999	—	1,213,253	—
Minnesota	1,104,144	1,736,801	135,103	—	799,177	—
North Dakota	515,497	—	47,672	—	452,164	—
Ohio	1,499,245	2,396,891	83,751	—	1,444,213	—
South Dakota	152,968	—	102,419	—	386,085	—
Wisconsin	944,595	—	94,162	—	750,908	—
New England—Total	**3,403,540**	**1,664,989**	**155,911**	**—**	**1,992,903**	**—**
Connecticut	856,656	—	69,182	—	898,428	—
Maine	241,779	—	37,871	—	513,521	—
Massachusetts	1,782,261	1,664,989	—	—	—	—
New Hampshire	198,464	—	—	—	—	—
Rhode Island	180,279	—	—	—	—	—
Vermont	144,101	—	48,858	—	580,954	—
Northwest Mountain—Total	**5,481,626**	**4,113,410**	**840,570**	**—**	**3,972,308**	**—**
Colorado	1,390,406	1,458,752	137,801	—	844,279	—
Idaho	384,840	—	50,878	—	262,038	—
Montana	306,198	—	151,921	—	443,315	—
Oregon	1,024,386	—	126,894	—	635,268	—
Utah	409,017	1,308,257	70,302	—	348,714	—
Washington	1,847,774	1,346,401	208,260	—	1,133,844	—
Wyoming	119,005	—	94,514	—	304,850	—
Southern—Total	**11,837,220**	**7,833,521**	**991,307**	**280,540**	**8,660,547**	**1,639,566**
Alabama	653,539	—	116,610	—	861,888	—
Florida	5,499,444	3,571,013	254,018	213,250	2,351,590	1,413,676
Georgia	1,534,416	2,419,203	118,857	—	1,310,537	—
Kentucky	723,108	—	70,326	—	533,514	—
Mississippi	304,888	—	46,143	—	377,537	—
North Carolina	1,258,833	—	168,418	—	1,304,040	—
Puerto Rico	288,326	—	—	67,290	—	225,890
South Carolina	450,779	—	56,262	—	707,840	—
Tennessee	942,982	1,843,305	160,673	—	1,213,601	—
Virgin Islands	180,905	—	—	—	—	—
Southwest—Total	**6,976,537**	**5,164,084**	**684,477**	**—**	**5,272,123**	**—**
Arkansas	324,263	—	85,865	—	538,511	—
Louisiana	1,012,686	—	33,778	—	572,858	—
New Mexico	429,091	1,498,536	140,670	—	568,714	—
Oklahoma	850,305	—	104,464	—	681,324	—
Texas	4,360,192	3,665,548	319,700	—	2,910,716	—
Western-Pacific—Total	**14,288,957**	**3,629,283**	**860,527**	**—**	**5,125,279**	**—**
American Samoa	10,667	—	—	—	—	—
Arizona	2,101,550	—	141,625	—	697,483	—
California	10,571,157	3,570,310	595,741	—	3,729,877	—
Guam	—	58,973	—	—	—	—
Hawaii	901,304	—	51,276	—	293,546	—
Nevada	683,867	—	71,885	—	404,373	—
Wake Island	20,412	—	—	—	—	—

CALENDAR YEARS

(TABLES 2.11–2.18)

TABLE 2.11
AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY CALENDAR YEARS 1986–1990

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled [2]	1990	37,541,831	2%	18,739,431	6%	5,647,553	7%	7,766,547	-4%	5,388,300	-5%
	1989	36,704,773	1%	17,600,768	-2%	5,284,042	-7%	8,126,818	1%	5,693,145	19%
	1988	36,383,294	1%	17,869,355	2%	5,662,629	5%	8,066,715	- [1]	4,784,595	-8%
	1987	36,112,129	5%	17,452,192	8%	5,380,048	5%	8,096,582	1%	5,183,307	1%
	1986	34,490,514	4%	16,223,428	9%	5,132,155	6%	8,003,192	-3%	5,131,739	3%
IFR Departures	1990	14,108,481	2%	6,396,281	5%	2,658,659	6%	3,232,788	-5%	1,820,753	-4%
	1989	13,854,290	+ [1]	6,065,044	-1%	2,499,739	-6%	3,386,246	1%	1,903,261	17%
	1988	13,788,054	-1%	6,126,722	- [1]	2,671,994	6%	3,358,945	-1%	1,630,393	-11%
	1987	13,866,150	4%	6,139,083	6%	2,516,471	6%	3,384,539	+ [1]	1,826,057	
	1986	13,338,657	4%	5,782,325	8%	2,380,794	6%	3,370,374	-3%	1,805,164	2%
IFR Overs [3]	1990	9,324,869	4%	5,946,869	9%	330,235	16%	1,300,971	-4%	1,746,794	-7%
	1989	8,996,193	2%	5,470,680	-3%	284,564	-11%	1,354,326	+ [1]	1,886,623	24%
	1988	8,807,186	5%	5,615,911	9%	318,641	-8%	1,348,825	2%	1,523,809	- [1]
	1987	8,379,829	7%	5,174,026	11%	347,106	-6%	1,327,504	5%	1,531,193	1%
	1986	7,813,200	7%	4,658,778	11%	370,567	11%	1,262,444	+ [1]	1,521,411	4%

[1] Less than 0.5 percent.
[2] The number of IFR Departures multiplied by two, plus the number of IFR Overs.
[3] Domestic plus oceanic overs

TABLE 2.12
AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS, BY AVIATION CATEGORY CALENDAR YEARS 1986–1990

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1990	63,962,781	4%	12,948,295	4%	8,968,697	7%	39,297,710	4%	2,748,079	-1%
	1989	61,321,964	- [1]	12,484,530	-2%	8,356,587	+ [1]	37,713,390	+ [1]	2,767,457	-2%
	1988	61,537,927	1%	12,741,239	-3%	8,315,411	10%	37,669,713	+ [1]	2,811,564	1%
	1987	61,004,284	2%	13,092,751	5%	7,553,620	9%	37,575,141	- [1]	2,782,772	5%
	1986	59,754,343	3%	12,523,570	9%	6,945,108	- [1]	37,637,377	2%	2,648,288	3%
Itinerant Operations	1990	45,842,637	4%	12,948,295	4%	8,968,697	7%	22,508,515	2%	1,417,130	0%
	1989	44,261,015	-1%	12,484,530	-2%	8,356,587	+ [1]	22,006,509	-1%	1,413,389	- [1]
	1988	44,659,108	1%	12,741,239	-3%	8,315,411	10%	22,188,943	1%	1,413,515	1%
	1987	44,039,814	3%	13,092,751	5%	7,553,620	9%	21,993,252	- [1]	1,400,191	4%
	1986	42,919,234	2%	12,523,570	9%	6,945,108	- [1]	22,098,066	-1%	1,352,490	2%
Local Operations	1990	18,120,144	6%	0	—	0	—	16,789,195	7%	1,330,949	-2%
	1989	17,060,949	1%	—	—	—	—	15,706,881	1%	1,354,068	-3%
	1988	16,878,819	-1%	—	—	—	—	15,480,770	-1%	1,398,049	1%
	1987	16,964,470	1%	—	—	—	—	15,581,889	+ [1]	1,382,581	7%
	1986	16,835,109	5%	—	—	—	—	15,539,311	5%	1,295,798	3%

[1] Less than 0.5 percent.

TABLE 2.13
AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY CALENDAR YEARS 1986–1990

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1990	46,935,150	4%	14,103,619	4%	9,538,773	11%	18,995,944	2%	4,296,814	-1%
	1989	45,055,648	+ [1]	13,501,139	+ [1]	8,598,447	1%	18,631,727	1%	4,324,335	-3%
	1988	44,858,714	2%	13,477,165	-2%	8,540,039	13%	18,402,606	2%	4,438,904	- [1]
	1987	43,813,578	6%	13,791,619	6%	7,582,028	12%	17,998,854	5%	4,441,077	2%
	1986	41,293,048	6%	13,021,064	9%	6,766,667	5%	17,156,395	1%	4,348,922	4%
Total Instrument Approaches	1990	2,074,931	-12%	703,607	-19%	520,655	-2%	762,782	-7%	87,887	-34%
	1989	2,354,303	29%	871,457	36%	530,050	25%	819,829	26%	132,967	18%
	1988	1,830,121	-12%	641,592	-20%	424,490	-8%	651,689	-8%	112,350	-3%
	1987	2,087,672	-17%	803,771	-17%	459,405	-7%	708,701	-22%	115,795	-21%
	1986	2,518,380	9%	962,993	15%	494,075	3%	914,107	5%	147,205	15%
Total Instrument Approaches at Control Facilities [2]	1990	1,863,106	-14%	688,772	-20%	458,004	-3%	643,345	-11%	72,985	-37%
	1989	2,171,464	32%	858,637	36%	474,600	32%	722,910	30%	115,317	17%
	1988	1,644,854	-14%	629,719	-20%	358,630	-9%	557,759	-9%	98,746	-6%
	1987	1,904,605	-18%	788,015	-17%	395,786	-9%	616,231	-25%	104,573	-22%
	1986	2,330,153	9%	945,599	14%	433,426	2%	816,590	4%	134,538	16%

[1] Less than 0.5 percent.
[2] Excludes instrument approaches provided by Air Route Traffic Control Centers.

TABLE 2.14
AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES CALENDAR YEARS 1986–1990

	Year	Flight Services [2]		Flight Plans Originated						Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1990	42,147,558	-5%	6,769,310	-7%	5,124,896	-9%	1,644,414	0%	1,546,750	-7%	11,310,932	-5%
	1989	44,568,228	-3%	7,307,687	-3%	5,657,951	-3%	1,649,736	-4%	1,659,094	-11%	11,919,181	3%
	1988	46,019,119	-1%	7,533,950	-1%	5,822,918	-1%	1,711,032	-1%	1,865,295	-19%	11,572,264	-6%
	1987	46,661,663	-4%	7,601,465	1%	5,878,781	+ [1]	1,722,684	5%	2,305,151	-11%	12,321,658	-7%
	1986	48,727,382	-6%	7,503,913	-5%	5,867,455	-5%	1,636,458	-3%	2,584,214	-7%	13,281,761	-7%
International Flight Service Stations	1990	1,657,017	1%	369,675	5%	224,815	10%	144,860	-3%	2,162	-70%	318,347	3%
	1989	1,643,176	11%	352,797	11%	203,490	26%	149,307	-4%	7,175	26%	307,857	13%
	1988	1,474,570	3%	317,637	1%	161,907	6%	155,730	-4%	5,700	-21%	271,888	11%
	1987	1,434,844	-6%	314,349	-1%	152,121	5%	162,228	-6%	7,194	-23%	245,726	-7%
	1986	1,534,091	-26%	317,939	-16%	145,311	-18%	172,628	-13%	9,352	-3%	263,431	-39%

[1] Less than 0.5 percent.
[2] The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.15). No credit is allowed for airport advisories.

TABLE 2.15
AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY
CALENDAR YEARS 1986–1990

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1990	5,987,074	-2%	237,663	-4%	801,198	-4%	4,527,947	-2%	420,266	-2%
	1989	6,114,492	-3%	247,916	-7%	836,570	-6%	4,601,252	-3%	428,754	4%
	1988	6,332,081	-7%	265,482	-22%	890,071	-4%	4,763,050	-6%	413,478	-9%
	1987	6,815,417	-5%	342,138	-6%	930,059	-5%	5,087,614	-6%	455,606	7%
	1986	7,156,034	-6%	364,183	-6%	977,917	-10%	5,388,852	-6%	425,082	-2%
IFR-DVFR	1990	1,782,407	-6%	229,135	-2%	409,470	-1%	981,802	-9%	162,000	-3%
	1989	1,892,592	3%	234,423	-9%	412,230	-1%	1,078,147	7%	167,792	9%
	1988	1,838,167	-6%	257,706	-20%	415,728	-1%	1,010,437	-5%	154,296	-3%
	1987	1,964,873	-5%	321,056	-5%	417,846	-3%	1,067,407	-8%	158,564	8%
	1986	2,073,740	-5%	339,552	-3%	429,062	-5%	1,158,869	-6%	146,257	-3%
VFR	1990	4,204,667	'- [1]	8,528	-37%	391,728	-8%	3,546,145	1%	258,266	-1%
	1989	4,221,900	-6%	13,493	74%	424,340	-11%	3,523,105	-6%	260,962	1%
	1988	4,493,914	-7%	7,776	-63%	474,343	-7%	3,752,613	-7%	259,182	-13%
	1987	4,850,544	-5%	21,082	-14%	512,213	-7%	4,020,207	-5%	297,042	7%
	1986	5,082,294	-6%	24,631	-27%	548,855	-14%	4,229,983	-5%	278,825	-1%
International Flight Service Stations	1990	280,973	-13%	11,527	-9%	45,947	-27%	214,764	-10%	8,735	19%
	1989	321,868	9%	12,686	-4%	62,722	-17%	239,118	19%	7,342	7%
	1988	295,520	-6%	13,208	16%	75,163	-19%	200,302	-2%	6,847	2%
	1987	314,694	-15%	11,394	5%	92,576	-33%	204,023	-5%	6,701	3%
	1986	371,351	-19%	10,841	11%	138,166	-10%	215,833	-24%	6,511	-14%
IFR-DVFR	1990	40,384	-13%	11,451	-9%	6,606	-13%	19,227	-13%	3,100	5%
	1989	45,252	10%	12,622	-4%	7,566	35%	22,103	13%	2,961	13%
	1988	40,996	11%	13,188	19%	5,604	26%	19,582	5%	2,622	2%
	1987	36,779	-1%	11,077	6%	4,447	45%	18,672	-13%	2,583	7%
	1986	37,301	-5%	10,405	8%	3,066	-37%	21,425	-5%	2,405	-1%
VFR	1990	240,589	-13%	76	19%	39,341	-29%	195,537	-10%	5,635	29%
	1989	276,616	9%	64	220%	55,156	-21%	217,015	20%	4,381	4
	1988	254,524	-8%	20	-94%	69,559	-21%	180,720	-2%	4,225	3%
	1987	277,915	-17%	317	-27%	88,129	-35%	185,351	-5%	4,118	+ [1]
	1986	334,050	-20%	436	160%	135,100	-9%	194,408	-26%	4,106	-21%

[1] Less than 0.5 percent.

TABLE 2.16
TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF TOTAL OPERATIONS AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK
CALENDAR YEAR 1990

Tower	Rank	Total Operations	Rank	Air Carrier	Air Taxi	General Aviation	Military
Chicago O'Hare Int'l	1	810,346	1	629,159	151,023	27,074	3,090
Atlanta Int'l	2	790,502	2	581,742	185,748	21,617	1,395
Dallas Ft. Worth Regional	3	731,224	3	546,208	185,748	21,617	1,395
Los Angeles Int'l	4	679,861	4	457,276	185,748	21,617	1,395
Van Nuys	5	527,610	N/A	0	616	526,691	303
Santa Ana	6	522,942	55	61,677	33,403	427,268	594
Phoenix Sky Harbor Int'l	7	498,522	7	295,963	77,823	116,033	8,703
Long Beach	8	497,400	84	27,778	3,399	463,886	2,337
Denver Stapleton Int'l	9	484,130	6	305,660	138,404	38,425	1,641
Miami Int'l	10	480,876	9	281,180	112,849	79,581	7,266
Charlotte Douglas	11	450,818	15	243,982	123,169	78,406	5,261
Boston Logan	12	449,688	14	246,449	163,906	38,689	644
San Francisco	13	440,090	5	317,958	78,866	40,804	2,462
St. Louis Int'l	14	439,000	8	281,497	110,037	37,772	9,694
Fort Worth Meacham	15	411,638	235	130	1,552	409,269	687
Philadelphia Int'l	16	411,294	16	229,913	126,024	54,369	988
Honolulu	17	407,093	22	194,455	81,326	110,724	4,861
Seattle Boeing	18	403,154	155	6,087	18,583	374,297	4,187
Oakland Int'l	19	402,001	45	90,746	53,903	256,341	1,011
Las Vegas McCarran Int'l	20	399,761	20	202,850	81,326	110,724	4,861
Detroit Metro Wayne	21	387,848	10	276,660	57,456	53,527	205
Newark	22	386,613	11	276,541	86,834	22,584	654
Denver Centennial	23	386,057	N/A	0	3,971	374,298	7,788
Pittsburgh Greater Int'l	24	385,806	13	257,300	99,689	22,475	6,342
Minneapolis St Paul Int'l	25	382,960	17	227,086	82,524	70,548	2,802

NOTE: Total Operations rank was based on total air traffic activity at 400 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity a t 300 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.
NA—Not Applicable

TABLE 2.17
TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF AIR CARRIER OPERATIONS AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK
CALENDAR YEAR 1990

Tower	Rank	Air Carrier	Air Taxi	General Aviation	Military	Rank	Total Operations
Chicago O'Hare Int'l	1	629,159	151,023	27,074	3,090	1	810,346
Atlanta Int'l	2	581,742	185,748	21,617	1,395	2	790,502
Dallas Ft. Worth Regional	3	546,208	167,785	16,306	925	3	731,224
Los Angeles Int'l	4	457,276	164,127	53,077	5,381	4	679,861
San Francisco	5	317,958	78,866	40,804	2,462	13	440,090
Denver Stapleton Int'l	6	305,660	138,404	38,425	1,641	9	484,130
Phoenix Sky Harbor Int'l	7	295,963	77,823	116,033	8,703	7	498,522
St. Louis Int'l	8	281,497	110,037	37,772	9,694	14	439,000
Miami Int'l	9	281,180	112,849	79,581	7,266	10	480,876
Detroit Metro Wayne	10	276,660	57,456	53,527	205	21	387,848
Newark	11	276,541	86,834	22,584	654	22	386,613
La Guardia	12	272,161	66,707	22,131	459	28	361,458
Pittsburgh Greater Int'l	13	257,300	99,689	22,475	6,342	24	385,806
Boston Logan	14	246,449	163,906	38,689	644	12	449,688
Charlotte Douglas	15	243,982	123,169	78,406	5,261	11	450,818
Philadelphia Int'l	16	229,913	126,024	54,369	988	16	411,294
Minneapolis St Paul Int'l	17	227,086	82,524	70,548	2,802	25	382,960
Houston Int'l	18	216,933	54033	42067	1403	36	314,436
John F. Kennedy Int'l	19	216,367	100,518	19,496	841	30	337,222
Las Vegas McCarran Int'l	20	202,850	81,326	110,724	4,861	20	399,761
Washington National	.	195,773	59,766	61,207	309	35	317,055
Honolulu	22	194,455	57,342	122,392	32,904	17	407,093
Seattle Tacoma Int'l	23	193,482	150,376	10,844	303	29	355,005
Orlando	24	184,424	65,630	28,580	3,313	46	281,947
Memphis Int'l	25	181,969	72,200	66,376	6,582	32	327,127

NOTE: Total Operations rank was based on total air traffic activity at 400 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 300 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.18
TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS AND INTERNATIONAL FLIGHT SERVICE STATIONS
CALENDAR YEAR 1990

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Station	Flight Service Station	Int'l Flight Service Station
TOTAL	**63,962,781**	**37,541,831**	**5,987,074**	**280,973**	**42,147,558**	**1,657,017**
Alaskan—Total	**1,069,295**	**487,406**	**951,381**	**—**	**2,211,609**	**—**
Central—Total	**2,392,152**	**1,696,251**	**337,283**	**—**	**3,001,669**	**—**
Iowa	437,793	—	54,189	—	568,915	—
Kansas	508,681	—	69,181	—	590,563	—
Missouri	1,147,377	1,696,251	152,613	—	1,439,469	—
Nebraska	298,301	—	61,300	—	402,722	—
Eastern—Total	**8,281,597**	**4,261,508**	**492,650**	**—**	**5,540,246**	**—**
Delaware	199,763	—	—	—	—	—
District of Columbia	317,055	2,264,996	83,954	—	1,098,648	—
Maryland	517,994	—	47,736	—	100,472	—
New Jersey	1,346,478	—	61,037	—	914,781	—
New York	2,557,012	1,996,512	78,244	—	1,223,602	—
Pennsylvania	1,968,397	—	129,110	—	1,500,562	—
Virginia	993,708	—	14,296	—	199,518	—
West Virginia	381,190	—	78,273	—	502,663	—
Great Lakes—Total	**10,020,859**	**8,704,431**	**722,724**	**—**	**6,854,954**	**—**
Illinois	2,876,174	2,625,371	88,681	—	1,033,807	—
Indiana	829,905	1,951,799	68,566	—	848,260	—
Michigan	2,075,706	—	98,274	—	1,181,846	—
Minnesota	1,119,219	1,736,653	136,637	—	814,901	—
North Dakota	525,338	—	49,029	—	447,283	—
Ohio	1,495,913	2,390,608	84,087	—	1,402,529	—
South Dakota	154,613	—	105,371	—	388,413	—
Wisconsin	943,991	—	92,079	—	737,915	—
New England—Total	**3,362,969**	**1,637,749**	**154,520**	**—**	**1,940,948**	**—**
Connecticut	861,765	—	70,121	—	898,537	—
Maine	242,243	—	37,058	—	503,586	—
Massachusetts	1,746,258	1,637,749	—	—	—	—
New Hampshire	200,066	—	—	—	—	—
Rhode Island	171,727	—	—	—	—	—
Vermont	140,910	—	47,341	—	538,825	—
Northwest Mountain—Total	**5,416,602**	**4,072,349**	**823,948**	**—**	**3,894,624**	**—**
Colorado	1,404,441	1,460,140	135,856	—	831,996	—
Idaho	374,112	—	49,886	—	266,332	—
Montana	300,567	—	149,555	—	430,509	—
Oregon	1,018,895	—	122,655	—	615,749	—
Utah	405,799	1,282,304	69,503	—	341,415	—
Washington	1,797,285	1,329,905	202,462	—	1,107,984	—
Wyoming	115,503	—	94,031	—	300,639	—
Southern—Total	**11,926,997**	**7,852,909**	**980,825**	**280,973**	**8,483,841**	**1,657,017**
Alabama	662,634	—	115,287	—	839,227	—
Florida	5,562,467	3,582,962	253,403	214,593	2,308,339	1,428,977
Georgia	1,547,010	2,429,371	119,118	—	1,289,634	—
Kentucky	727,437	—	71,275	—	530,361	—
Mississippi	300,944	—	45,583	—	367,125	—
North Carolina	1,256,571	—	164,814	—	1,273,358	—
Puerto Rico	290,206	—	—	66,380	—	228,040
South Carolina	455,176	—	52,742	—	682,340	—
Tennessee	946,740	1,840,576	158,603	—	1,193,457	—
Virgin Islands	177,812	—	—	—	—	—
Southwest—Total	**6,993,651**	**5,176,855**	**675,690**	**—**	**5,184,360**	**—**
Arkansas	319,473	—	78,996	—	524,624	—
Louisiana	1,030,309	—	31,487	—	558,781	—
New Mexico	427,790	1,503,499	139,716	—	570,112	—
Oklahoma	845,341	—	106,794	—	679,314	—
Texas	4,370,738	3,673,356	318,697	—	2,851,529	—
Western-Pacific—Total	**14,498,659**	**3,652,373**	**848,053**	**—**	**5,035,307**	**—**
American Samoa	10,695	—	—	—	—	—
Arizona	2,120,306	—	138,645	—	690,253	—
California	10,756,133	3,592,572	591,259	—	3,668,471	—
Guam	—	59,801	—	—	—	—
Hawaii	905,795	—	51,614	—	281,930	—
Nevada	684,838	—	66,535	—	394,653	—
Wake Island	20,892	—	—	—	—	—

III. AIRPORTS

Information about U.S. civil and joint-use landing facilities (including airports, heliports, stolports, and seaplane bases) was furnished by the FAA Office of Airport Standards. This information was obtained through physical inspection and mail solicitations, and was reported on the Airport Master Record (Form FAA 5010–1) and FAA Landing Facilities Information Request on Airports, Heliports, Stolports, and Seaplane Bases (Forms 5010–2 and 5010–5).

TABLE 3.1
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, ON RECORD: 1981–1990

Year	All Facilities [1]			Airports Only			
	Total	With Runway Lights	With Paved Runways	Total	With Runway Lights	With Paved Runway	Airports of Entry [2]
1981	15,476	4,796	6,012	12,427	4,474	4,351	69
1982	15,831	4,842	6,224	12,596	4,494	4,391	63
1983	16,029	4,878	6,441	12,653	4,513	4,431	59
1984	16,079	4,889	6,531	12,648	4,536	4,450	59
1985	16,318	4,941	6,721	12,744	4,582	4,486	57
1986	16,582	4,954	6,948	12,785	4,601	4,499	76
1987	17,015	4,922	7,232	12,907	4,610	4,526	80
1988	17,327	4,890	7,429	12,950	4,630	4,554	80
1989	17,446	4,881	7,612	12,946	4,657	4,600	84
1990	17,490	4,822	7,694	12,920	4,652	4,611	81

[1] All facilities include airports, heliports, stolports and seaplane bases.
[2] Excludes landing rights airports.

TABLE 3.2
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, AND REPORTED ABANDONMENTS ON RECORD, BY FAA REGION AND STATE
DECEMBER 31, 1990

FAA Region and State	Total Aircraft Facilities	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandonments During Year
Total	**17,490**	**12,920**	**4,085**	**70**	**415**	**418**
U.S. Total [1]	**17,419**	**12,870**	**4,068**	**70**	**411**	**418**
Alaska	602	477	20	0	105	1
Central-Total	**1,401**	**1,219**	**173**	**3**	**6**	**34**
Iowa	273	223	49	1	0	9
Kansas	386	359	26	1	0	5
Missouri	440	354	80	1	5	5
Nebraska	302	283	18	0	1	15
Eastern-Total	**2,192**	**1,366**	**760**	**7**	**59**	**85**
Delaware	33	20	12	0	1	2
District	16	2	14	0	0	1
Maryland	158	114	41	1	2	9
New Jersey	321	111	201	0	9	14
New York	497	355	117	0	25	11
Pennsylvania	742	468	262	3	9	40
Virginia	331	235	90	3	3	5
West. Virginia	94	61	23	0	10	3
Great Lakes-Total	**4,222**	**3,455**	**667**	**9**	**91**	**114**
Illinois	928	697	225	0	6	34
Indiana	566	467	92	2	5	14
Michigan	431	368	57	2	4	14
Minnesota	472	381	26	1	64	10
No. Dakota	475	467	7	0	1	6
Ohio	715	524	188	3	0	24
S. Dakota	159	150	8	1	0	1
Wisconsin	476	401	64	0	11	11
New England-Total	**648**	**342**	**243**	**5**	**58**	**1**
Connecticut	132	57	69	1	5	0
Maine	157	107	15	0	35	1
Massachusetts	195	77	103	1	14	0
New Hampshire	74	41	29	1	3	0
Rhode Island	24	12	11	0	1	0
Vermont	66	48	16	2	0	0
Northwest Mountain-Total	**1,804**	**1,350**	**424**	**10**	**20**	**45**
Colorado	384	214	165	5	0	8
Idaho	211	181	26	0	4	3
Montana	220	199	19	1	1	3
Oregon	370	285	81	2	2	10
Utah	112	84	28	0	0	3
Washington	410	302	93	2	13	14
Wyoming	97	85	12	0	0	4
Southern-Total	**2,305**	**1,717**	**534**	**23**	**31**	**55**
Alabama	196	156	38	0	2	7
Florida	662	431	203	6	22	13
Georgia	368	275	89	4	0	6
Kentucky	143	114	28	1	0	8
Mississippi	207	178	29	0	0	6
No. Carolina	331	274	54	3	0	8
Puerto Rico	29	17	11	0	1	0
S. Carolina	150	128	22	0	0	5
Tennessee	211	142	57	9	3	2
Virgin Islands	8	2	3	0	3	0
Southwest-Total	**2,923**	**2,107**	**775**	**8**	**33**	**54**
Arkansas	230	161	69	0	0	0
Lousiana	426	198	197	0	31	3
New Mexico	164	144	19	0	1	8
Oklahoma	411	322	88	0	1	2
Texas	1,692	1,282	402	8	0	41
Western-Pacific-Total	**1,393**	**887**	**489**	**5**	**12**	**29**
Arizona	272	181	90	1	0	6
California	918	548	355	3	12	7
Hawaii	50	34	16	0	0	3
Nevada	119	93	25	1	0	13
South Pacific [2]	34	31	3	0	0	0

[1] Excludes Puerto Rico, Virgin Islands, and South Pacific
[2] American Samoa, Guam, and Trust Territories

TABLE 3.3
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, ON RECORD, BY TYPE OF OWNERSHIP
DECEMBER 31, 1990

FAA Region and State	Total Facilities	By Ownership		Paved Facilities		Unpaved Facilities	
		Private	Public	Lighted	Not Lighted	Lighted	Not Lighted
Total	**17,490**	**12,412**	**5,078**	**3,932**	**3,762**	**890**	**8,906**
U.S. Total [1]	**17,419**	**12,392**	**5,027**	**3,908**	**3,741**	**890**	**8,880**
Alaska	602	200	402	48	15	106	433
Central—Total	**1,401**	**927**	**474**	**399**	**178**	**113**	**711**
Iowa	273	151	122	98	43	44	88
Kansas	386	254	132	105	30	30	221
Missouri	440	313	127	119	81	22	218
Nebraska	302	209	93	77	24	17	184
Eastern—Total	**2,192**	**1,856**	**336**	**391**	**550**	**106**	**1,145**
Delaware	33	29	4	7	6	5	15
District	16	9	7	4	10	0	2
Maryland	158	139	19	35	32	12	79
New Jersey	321	280	41	40	96	10	175
New York	497	412	85	93	108	36	260
Pennsylvania	742	666	76	107	199	31	405
Virginia	331	256	75	75	73	10	173
West. Virginia	94	65	29	30	26	2	36
Great Lakes—Total	**4,222**	**3,317**	**905**	**801**	**520**	**301**	**2,600**
Illinois	928	814	114	111	158	56	603
Indiana	566	479	87	89	67	31	379
Michigan	431	296	135	128	48	44	211
Minnesota	472	324	148	100	27	41	304
No. Dakota	475	378	97	67	10	29	369
Ohio	715	580	135	145	133	49	388
S. Dakota	159	81	78	53	9	22	75
Wisconsin	476	365	111	108	68	29	271
New England—Total	**648**	**507**	**141**	**130**	**188**	**12**	**318**
Connecticut	132	116	16	26	56	2	48
Maine	157	111	46	30	18	3	106
Massachusetts	195	161	34	40	73	4	78
New Hampshire	74	58	16	17	26	2	29
Rhode Island	24	15	9	7	9	0	8
Vermont	66	46	20	10	6	1	49
Northwest Mountain—Total	**1,804**	**1,119**	**685**	**430**	**382**	**77**	**915**
Colorado	384	291	93	76	89	16	203
Idaho	211	80	131	44	34	1	132
Montana	220	97	123	69	29	15	107
Oregon	370	269	101	61	89	13	207
Utah	112	52	60	43	33	1	35
Washington	410	282	128	104	93	28	185
Wyoming	97	48	49	33	15	3	46
Southern—Total	**2,305**	**1,493**	**812**	**679**	**518**	**91**	**1,017**
Alabama	196	99	97	90	42	8	56
Florida	662	509	153	117	179	27	339
Georgia	368	235	133	103	86	10	169
Kentucky	143	73	70	54	35	4	50
Mississippi	207	121	86	73	40	7	87
No. Carolina	331	236	95	93	53	19	166
Puerto Rico	29	12	17	11	13	0	5
S. Carolina	150	83	67	58	18	8	66
Tennessee	211	123	88	78	51	8	74
Virgin Islands	8	2	6	2	1	0	5
Southwest—Total	**2,923**	**2,115**	**808**	**697**	**835**	**65**	**1,326**
Arkansas	230	117	113	81	75	5	69
Lousiana	426	325	101	73	166	2	185
New Mexico	164	87	77	47	32	3	82
Oklahoma	411	250	161	118	98	15	180
Texas	1,692	1,336	356	378	464	40	810
Western-Pacific—Total	**1,393**	**878**	**515**	**357**	**576**	**19**	**441**
Arizona	272	181	91	68	86	4	114
California	918	602	316	237	425	12	244
Hawaii	50	34	16	12	30	1	7
Nevada	119	55	64	29	28	2	60
South Pacific [2]	34	6	28	11	7	0	16

[1] Excludes Puerto Rico, Virgin Islands, and South Pacific
[2] American Samoa, Guam, and Trust Territories

TABLE 3.4
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD, BY LENGTH OF LONGEST RUNWAY [1], BY FAA REGION AND STATE
DECEMBER 31, 1990

FAA State and Region	Total	Under 3000	3000-3999	4000-4999	5000-5999	6000-6999	7000-7999	8000-8999	9000-9999	10,000-Over
Total	**17,490**	**11,726**	**2,657**	**1,276**	**893**	**335**	**176**	**125**	**67**	**235**
U.S. Total [2]	**17,419**	**11,691**	**2,648**	**1,272**	**889**	**327**	**171**	**124**	**65**	**232**
Alaska	602	324	80	55	53	20	10	6	6	48
Central—Total	**1,401**	**971**	**239**	**100**	**41**	**17**	**11**	**7**	**3**	**12**
Iowa	273	183	38	35	8	5	0	3	1	0
Kansas	386	267	68	23	17	2	6	0	0	3
Missouri	440	321	75	17	9	6	3	1	1	7
Nebraska	302	200	58	25	7	4	2	3	1	2
Eastern—Total	**2,192**	**1,769**	**182**	**78**	**78**	**28**	**15**	**8**	**10**	**24**
Delaware	33	24	4	2	2	0	1	0	0	0
District	16	14	0	0	0	1	0	0	0	1
Maryland	158	129	15	5	6	1	0	1	1	0
New Jersey	321	279	21	5	9	2	1	1	1	2
New York	497	371	49	18	20	9	5	2	4	19
Pennsylvania	742	645	44	20	15	6	6	1	3	2
Virginia	331	252	36	21	13	5	0	3	1	0
West. Virginia	94	55	13	7	13	4	2	0	0	0
Great Lakes—Total	**4,222**	**3,158**	**573**	**210**	**118**	**58**	**29**	**26**	**8**	**42**
Illinois	928	804	63	25	15	8	4	6	0	3
Indiana	566	457	56	24	14	5	2	1	1	6
Michigan	431	282	76	28	23	10	5	1	1	5
Minnesota	472	274	87	33	28	16	9	5	0	20
No. Dakota	475	363	79	21	5	3	2	1	1	0
Ohio	715	554	89	41	15	6	2	3	2	3
S. Dakota	159	77	52	17	5	5	1	2	0	0
Wisconsin	476	347	71	21	13	5	4	7	3	5
New England—Total	**648**	**486**	**53**	**27**	**40**	**11**	**9**	**3**	**2**	**17**
Connecticut	132	114	5	6	4	0	1	0	1	1
Maine	157	88	21	11	13	5	3	2	0	14
Massachusetts	195	154	15	5	13	3	1	1	1	2
New Hampshire	74	56	6	2	6	3	1	0	0	0
Rhode Island	24	19	0	2	1	0	2	0	0	0
Vermont	66	55	0	1	3	0	1	0	0	0
Northwest Mountain—Total	**1,804**	**1,074**	**305**	**183**	**117**	**44**	**23**	**15**	**16**	**27**
Colorado	384	235	54	40	24	10	4	7	4	6
Idaho	211	107	45	38	10	3	1	1	3	3
Montana	220	86	73	34	14	2	1	2	4	4
Oregon	370	278	43	19	20	7	1	0	0	2
Utah	112	33	21	23	18	8	5	2	1	1
Washington	410	305	51	13	19	6	4	0	3	9
Wyoming	97	30	18	16	12	8	7	3	1	2
Southern—Total	**2,305**	**1,354**	**445**	**227**	**148**	**50**	**25**	**25**	**8**	**23**
Alabama	196	98	40	28	12	8	2	4	2	2
Florida	662	407	115	61	31	15	11	9	2	11
Georgia	368	226	70	29	32	7	0	2	1	1
Kentucky	143	90	18	19	9	4	1	0	0	2
Mississippi	207	98	72	15	11	5	1	4	1	0
No. Carolina	331	212	59	31	16	4	5	1	0	3
Puerto Rico	29	18	4	2	1	2	0	0	0	2
S. Carolina	150	78	37	15	15	2	1	2	0	0
Tennessee	211	123	30	27	20	3	2	3	2	1
Virgin Islands	8	4	0	0	1	0	2	0	0	1
Southwest—Total	**2,923**	**1,741**	**572**	**266**	**209**	**57**	**30**	**21**	**6**	**21**
Arkansas	230	132	45	25	18	8	1	1	0	0
Lousiana	426	294	59	18	37	6	2	3	0	7
New Mexico	164	42	24	31	36	11	10	7	0	3
Oklahoma	411	269	82	29	17	6	3	1	1	3
Texas	1,692	1,004	362	163	101	26	14	9	5	8
Western-Pacific—Total	**1,393**	**849**	**208**	**130**	**89**	**50**	**24**	**14**	**8**	**21**
Arizona	272	142	37	46	23	10	7	5	0	2
California	918	618	148	58	39	22	8	6	4	15
Hawaii	50	37	4	2	2	3	0	0	1	1
Nevada	119	39	14	22	23	9	6	2	1	3
South Pacific [3]	34	13	5	2	2	6	3	1	2	0

[1] Length in feet
[2] *Excludes Puerto Rico, Virgin Islands, and South Pacific*
[3] American Samoa, Guam, and Trust Territories

TABLE 3.5
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD, BY FAA REGION AND STATE AND OTHER AREAS
DECEMBER 31, 1980 - 1989

FAA Region and State	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
TOTAL	**15,476**	**15,831**	**16,029**	**16,079**	**16,318**	**16,582**	**17,015**	**17,327**	**17,446**	**17,490**
United States—Total [1]	**15,422**	**15,778**	**15,966**	**16,013**	**16,252**	**16,516**	**16,949**	**17,259**	**17,377**	**17,419**
Alaskan—Total	**689**	**666**	**615**	**609**	**610**	**614**	**593**	**603**	**593**	**602**
Central—Total	**1,373**	**1,379**	**1,425**	**1,430**	**1,437**	**1,421**	**1,437**	**1,417**	**1,406**	**1,401**
Iowa	270	273	280	282	278	279	277	274	273	273
Kansas	376	377	380	384	385	382	389	390	385	386
Missouri	393	398	419	423	437	429	440	431	431	440
Nebraska	334	331	346	341	337	331	331	322	317	302
Eastern—Total	**2,003**	**2,011**	**2,051**	**2,048**	**2,076**	**2,134**	**2,175**	**2,192**	**2,208**	**2,192**
Delaware	37	35	37	36	36	37	35	34	34	33
District of Columbia	16	16	16	15	15	15	15	16	17	16
Maryland	145	147	147	149	151	155	154	157	162	158
New Jersey	271	280	291	294	295	286	317	317	322	321
New York	486	486	476	480	485	495	507	506	493	497
Pennsylvania	698	696	720	708	719	755	744	756	765	742
Virginia	260	262	270	274	282	299	308	313	322	331
West Virginia	90	89	94	92	93	92	95	93	93	94
Great Lakes—Total	**3,813**	**4,023**	**4,031**	**4,027**	**4,060**	**4,071**	**4,135**	**4,190**	**4,235**	**4,222**
Illinois	929	908	909	901	888	894	913	924	938	928
Indiana	365	490	498	495	523	518	530	545	554	566
Michigan	417	421	422	427	422	419	431	434	434	431
Minnesota	493	498	492	480	479	472	477	475	475	472
North Dakota	365	442	451	457	484	499	487	486	480	475
Ohio	674	681	678	689	690	697	716	714	720	715
South Dakota	162	163	165	165	164	161	158	155	158	159
Wisconsin	408	420	416	413	410	411	423	457	476	476
New England—Total	**534**	**521**	**513**	**509**	**515**	**536**	**568**	**595**	**612**	**648**
Connecticut	105	105	105	104	108	112	120	128	130	132
Maine	158	147	146	143	144	144	144	146	148	157
Massachusetts	136	134	130	130	131	141	158	170	181	195
New Hampshire	52	54	54	54	53	58	62	67	69	74
Rhode Island	18	18	18	18	18	20	22	23	23	24
Vermont	65	63	60	60	61	61	62	61	61	66
Northwest Mountain-Total	**1,586**	**1,619**	**1,636**	**1,626**	**1,662**	**1,685**	**1,737**	**1,812**	**1,805**	**1,804**
Colorado	312	326	321	315	321	323	333	396	385	384
Idaho	196	197	196	198	202	205	207	209	211	211
Montana	190	191	197	194	200	203	210	212	214	220
Oregon	318	332	341	336	342	351	366	367	372	370
Utah	102	96	95	97	101	105	109	113	111	112
Washington	363	372	382	385	395	396	408	413	412	410
Wyoming	105	105	104	101	101	102	104	102	100	97
Southern—Total	**1,895**	**1,919**	**1,947**	**1,961**	**2,002**	**2,099**	**2,165**	**2,293**	**2,285**	**2,305**
Alabama	165	167	169	173	174	183	193	201	195	196
Florida	506	529	541	542	557	594	607	669	645	662
Georgia	293	295	302	301	304	325	334	352	363	368
Kentucky	125	127	127	129	134	139	139	148	148	143
Mississippi	180	180	181	180	188	190	194	205	207	
North Carolina	286	280	284	288	292	307	316	322	332	331
Puerto Rico	33	32	31	31	31	30	27	28	29	29
South Carolina	137	135	137	139	139	137	146	152	150	150
Tennessee	164	168	169	171	176	186	201	208	208	211
Virgin Islands	6	6	6	7	7	8	8	8	8	8
Southwest—Total	**2,333**	**2,425**	**2,506**	**2,541**	**2,624**	**2,661**	**2,818**	**2,833**	**2,910**	**2,923**
Arkansas	157	157	160	156	163	167	173	195	218	230
Lousiana	292	303	311	317	353	357	381	385	419	426
New Mexico	156	159	160	167	169	168	174	167	170	164
Oklahoma	297	322	332	335	336	341	403	399	406	411
Texas	1,431	1,484	1,543	1,566	1,603	1,628	1,687	1,687	1,697	11,692
Western-Pacific—Total	**1,250**	**1,268**	**1,305**	**1,328**	**1,332**	**1,361**	**1,387**	**1,392**	**1,392**	**1,393**
Arizona	224	233	240	244	246	262	265	272	270	2272
California	832	843	862	881	887	895	909	907	910	918
Hawaii	51	49	51	51	50	51	54	54	53	50
Nevada	128	128	126	124	121	125	128	127	127	119
South Pacific [2]	15	15	26	28	28	28	31	32	32	34

[1] Excludes Puerto Rico, Virgin Islands, and South Pacific.
[2] American Samoa, Guam, and Trust Territories.

TABLE 3.6
AIRPORT IMPROVEMENT PROGRAM: FISCAL YEAR 1990
(Excludes Amendment to Grants) (Thousands of Dollars)

FAA Region and State	Primary		Commercial		Reliever		General Aviation		System Planning	
	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects
Total	**885,661.1**	**483**	**44,374.6**	**68**	**137,861.2**	**149**	**169,516.1**	**391**	**7,228.4**	**58**
US—Total [1]	**875,126.0**	**477**	**42,606.3**	**65**	**137,861.2**	**149**	**169,317.6**	**390**	**7,228.4**	**58**
Alaska	13,444.4	13	4,574.5	4	0.0	0	22,745.3	17	0.0	0
Central—Total	**43,924.6**	**26**	**8,554.6**	**8**	**4,552.7**	**3**	**11,824.7**	**20**	**429.9**	**4**
Iowa	1,068.6	5	3,488.3	3	0.0	0	3,903.4	5	0.0	0
Kansas	3,186.3	3	4,924.1	4	4,552.7	3	5,732.3	9	158.9	2
Missouri	28,235.4	11	0.0	0	0.0	0	0.0	0	271.0	2
Nebraska	11,434.3	7	142.2	1	0.0	0	2,189.0	6	0.0	0
Eastern—Total	**139,981.6**	**88**	**4,350.0**	**9**	**22,591.7**	**30**	**18,494.4**	**73**	**884.2**	**12**
Delaware	0.0	0	207.0	1	0.0	0	0.0	0	0.0	0
District	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Maryland	7,004.1	2	200.0	1	3,736.3	5	1,108.6	2	0.0	0
New Jersey	7,080.9	7	682.5	2	2,215.5	5	1,122.5	5	0.0	0
New York	58,943.1	31	3,260.5	5	6,967.0	11	7,091.1	28	385.0	8
Pennsylvania	42,066.8	29	0.0	0	8,114.4	7	5,263.4	18	300.0	3
Virginia	19,477.2	12	0.0	0	1,558.5	2	3,330.9	17	199.2	1
W. Virginia	5,409.5	7	0.0	0	0.0	0	577.9	3	0.0	0
Great Lakes—Total	**117,979.4**	**73**	**8,528.5**	**17**	**36,768.0**	**30**	**22,074.3**	**43**	**1,059.9**	**6**
Illinois	49,568.2	24	0.0	0	13,704.4	3	0.0	0	135.0	1
Indiana	9,800.1	8	1,873.3	2	6,521.2	7	3,389.4	10	180.0	1
Michigan	22,741.4	14	2,175.0	5	1,375.8	3	5,531.8	6	222.4	2
Minnesota	10,805.7	6	848.8	3	632.5	2	2,126.8	3	360.0	1
N. Dakota	3,730.8	4	0.0	0	0.0	0	1,728.9	4	162.5	1
Ohio	10,981.1	6	0.0	0	7,943.5	9	5,080.6	12	0.0	0
S. Dakota	1,492.6	4	3,239.4	6	0.0	0	1,785.6	5	0.0	0
Wisconsin	8,859.5	7	392.0	1	6,590.6	6	2,431.2	3	0.0	0
New England—Total	**35,682.1**	**28**	**2,056.5**	**3**	**5,208.4**	**9**	**5,871.4**	**14**	**1,004.4**	**3**
Connecticut	11,796.2	5	0.0	0	1,162.4	2	0.0	0	0.0	0
Maine	4,645.6	4	2,056.5	3	2,526.0	3	1,183.8	4	158.4	1
Massachusetts	11,920.6	11	0.0	0	285.0	2	1,616.7	6	846.0	2
New Hampshire	2,017.5	3	0.0	0	530.3	1	2,021.7	2	0.0	0
Rhode Island	3,933.3	3	0.0	0	704.7	1	770.4	1	0.0	0
Vermont	1,368.9	2	0.0	0	0.0	0	278.8	1	0.0	0
Northwest Mountain—Total	**126,039.0**	**52**	**3,972.8**	**10**	**9,989.6**	**13**	**21,724.4**	**54**	**1,000.0**	**12**
Colorado	86,051.8	9	750.0	2	5,743.3	5	6,680.9	10	233.7	3
Idaho	1,600.1	5	0.0	0	0.0	0	2,102.4	3	0.0	0
Montana	4,366.1	9	250.0	1	0.0	0	3,434.7	10	75.0	1
Oregon	5,068.6	8	0.0	0	499.5	1	2,296.1	7	99.2	1
Utah	5,841.0	4	457.1	2	886.6	2	1,902.3	9	155.3	2
Washington	16,618.7	9	2,239.2	3	2,860.2	5	2,961.6	6	402.0	4
Wyoming	6,492.7	8	276.5	2	0.0	0	2,346.4	9	34.8	1
Southern—Total	**197,354.1**	**102**	**3,523.4**	**5**	**16,838.5**	**26**	**25,355.9**	**81**	**1,339.3**	**9**
Alabama	8,696.4	7	400.0	1	0.0	0	4,908.5	11	200.0	1
Florida	73,277.6	34	3,123.4	4	7,582.9	17	5,825.5	18	288.0	1
Georgia	30,780.4	7	0.0	0	8,126.7	4	3,889.3	14	85.0	1
Kentucky	14,680.1	5	0.0	0	35.1	1	2,179.8	11	80.0	1
Mississippi	2,589.7	10	0.0	0	304.0	1	2,529.8	8	101.0	1
N. Carolina	15,299.6	18	0.0	0	0.0	0	0.0	0	312.5	2
Puerto Rico	7,457.8	5	0.0	0	0.0	0	529.6	3	162.8	1
S. Carolina	771.1	4	0.0	0	455.8	2	2,806.4	7	0.0	0
Tennessee	37,637.8	10	0.0	0	334.0	1	2,687.0	9	110.0	1
Virgin Islands	6,163.6	2	0.0	0	0.0	0	0.0	0	0.0	0
Southwest—Total	**69,258.8**	**45**	**1,973.2**	**5**	**18,951.4**	**15**	**21,705.5**	**49**	**716.4**	**7**
Arkansas	1,529.5	2	0.0	0	0.0	0	1,827.9	5	124.9	2
Lousiana	22,135.3	17	0.0	0	4,097.8	4	2,819.6	7	100.0	1
New Mexico	301.7	2	1,973.2	5	81.9	1	2,946.6	6	0.0	0
Oklahoma	8,940.5	4	0.0	0	2,241.6	3	2,525.4	7	175.5	1
Texas	36,351.8	20	0.0	0	12,530.1	7	11,586.0	24	316.0	3
Western-Pacific—Total	**141,997.1**	**56**	**6,841.1**	**7**	**22,960.9**	**23**	**19,720.2**	**40**	**794.3**	**5**
Arizona	28,380.9	10	4,288.0	3	5,298.1	4	4,148.6	7	232.3	2
California	75,128.4	33	784.8	1	14,387.0	16	12,241.9	28	454.5	2
Hawaii	16,728.9	4	0.0	0	0.0	0	0.0	0	0.0	0
Nevada	17,387.4	5	0.0	0	3,275.8	3	3,131.2	4	107.5	1
South Pacific [2]	4,371.5	4	1,768.3	3	0.0	0	198.5	1	0.0	0

[1] Excludes Puerto Rico, Virign Islands, amd South Pacific
[2] American Samoa, Guam,Norht Mariana, and Trust Territories
Note: Excludes State Block Grants:Illinois 21,402.01 Missouri 10,178.41 N.Carolina 8,291.31 Total 39,871.74

IV. AIRPORT ACTIVITY OF CERTIFICATED ROUTE AIR CARRIERS

The data presented in this chapter were obtained from information reported quarterly to the Department of Transportation's Research and Special Programs Administration (RSPA) by the large scheduled certificated air carriers on Schedules T-100 and T-3, RSPA Form 41, Uniform System of Accounts and Reports for Large Certificated Air Carriers. These statistics summarize , scheduled and non scheduled service revenue; passenger enplanements; aircraft departures; and tons of freight, express, and mail enplaned at certificated points in the 50 States, the District of Columbia, and other U.S. areas served by the carriers.

This chapter covers only the large scheduled certificated air carriers;* and thus excludes the charter only, small certificated, commuter, intrastate and foreign-flag air carriers. Note that this chapter covers only a subset of the carriers covered by Chapter VI—U.S. Certificated Air Carriers—Operating Data.

The activity information in Tables 4.5-4.9 is presented by "hubs". Air traffic hubs are geographical areas, and are based on the percentage of total passengers enplaned in the area. A hub may have more than one airport in it. This definition of hub should not be confused with the definition being used by the airlines in describing their "hub and spoke" structures. The hubs constitute a primary focal point for the transportation research programs of the FAA, and the analyses of individual cities within an area are treated in relationship to the entire area.

Individual communities fall into four hub classifications as determined by each community's percentage of the total enplaned revenue passengers in all services and all operations of U.S. certificated route air carriers within the 50 States, the District of Columbia, and other U.S. areas. Classifications in this issues are based on 438,544,001 totai enplaned revenue passengers.

The percentage and number of enplaned passengers in the hub classifications for 12 months ending December 31, 1990 are:

Hub Classification	Percentage of Total Enplaned Passengers	Number of Enplaned Passengers
Large (L)	1.00 or more	4,385,440 or more
Medium (M)	0.25 to 0.99	1,096,360 to 4,385,440
Small (S)	0.05 to 0.24	219,272 to 1,096,360
Nonhub (N)	less than 0.05	less than 219,272

During 1990 there were 124 air traffic hubs representing 26% of the 483 air traffic hubs and nonhubs in the 50 states, the District of Columbia, and other U. S. areas receiving air carrier service during the year. The dominance of the hubs in air traffic patterns is brought out by the fact that 98% of passenger enplanements were recorded at these 124 hubs. The table below shows the number of hubs/nonhubs and the number of airports in those hubs. It also shows the number and percentage of passenger enplanements at the hubs/ nonhubs.

Hub Classification	Number of Hubs/ Nonhubs	Number of Airports	Passengers Enplaned	Passengers Percent
Large	27	50	317,595,099	72.42
Medium	35	50	80,466,373	18.35
Small	62	73	30,771,383	7.02
Nonhub	359	387	9,711,146	2.21
TOTAL	483	560	438,544,001	100.00

* Large Certificated Air Carrier—carrier holding a certificate issued under Section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds or conducting international operations.

INSERT GRAPHIC "AIR TRAFFIC HUBS"

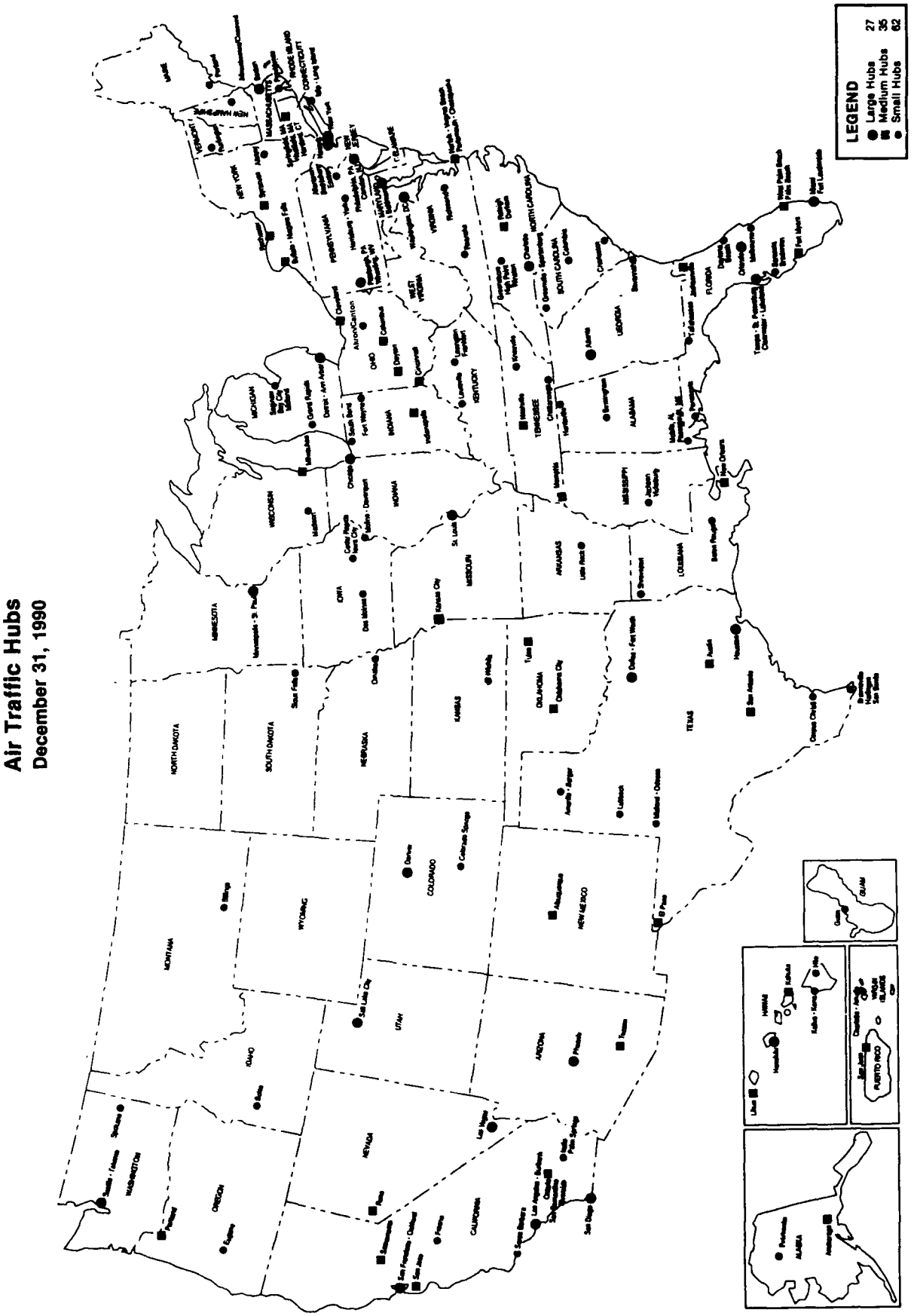


TABLE 4.1
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
AS OF DECEMBER 31, 1990

Aerial Transit	Horizon Air
Air Transport	Markair
Air Wisconsin	MGM Grand
Alaska Airlines	Midway Airlines
Aloha Airlines	Midwest Express Airlines
America West Airlines	Northern Air Cargo
American Airlines	Northwest Airlines
American Trans Air	Pacific Interstate
Amerijet	Pan American World Airways
Arrow Air	Reeve Aleutian Airways
Aspen Airways	Rosenbalm
Challenge Air Transport	Southern Air
Conner	Southwest Airlines
Conunental Air Lines	Tower Air
Delta Air Lines	Trans Continental
Discovery	Trans World Airlines
Eastern Air Lines	Trump Shuttle
Emerald Air	United Air Lines
Executive Airlines	United Parcel
Express One	U.S. Air
Federal Express	Westair
Hawaiian Airlines	Zantop

TABLE 4.2 [1]
AMERICAN FLAG AIRLINE TRAFFIC ENPLANEDSYSTEM TOTAL
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED OPERATIONS
1981–1990

Year	Enplaned Passenegers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1981	281,379,313	260,937,062	20,442,251	5,136,293	1,220,857.0	3,158,342.5
1982	292,538,822	272,449,376	19,789,450	4,921,628	1,247,351.2	2,951,619.9
1983	319,886,291	297,484,708	22,401,583	5,043,040	1,293,103.6	3,219,495.8
1984	344,831,718	321,136,409	23,695,309	5,449,541	1,389,154.7	3,579,216.1
1985	381,108,118	356,103,027	25,005,091	5,696,217	1,486,900.6	3,415,759.7
1986	418,563,577	393,267,950	25,295,582	6,401,599	2,066,173.6	4,718,544.1
1987	448,913,726	417,869,993	31,043,733	6,640,400	1,621,734.2	5,073,264.9
1988	456,026,372	420,326,215	35,700,157	6,724,445	1,717,738.7	5,860,039.0
1989	455,263,066	417,644,895	37,618,171	6,648,452	1,631,316.3	6,573,790.5
1990 [2]	438,544,001	NA	NA	6,641,681	1,566,098.1	4,732,726.1

[1] Includes operations of certificated all-cargo carriers.
[2] Excludes traffic enplaned in foreign countries.

NA—No longer available.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.3 [1]
AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—50 STATES
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED OPERATIONS
1981–1990

Year	Enplaned Passenegers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1981	263,684,851	256,007,148	7,677,703	4,940,700	1,160,808.6	2,643,964.8
1982	275,540,455	268,118,227	7,422,228	4,716,900	1,185,857.7	2,389,304.9
1983	301,347,773	292,962,603	8,385,170	4,825,467	1,227,581.1	2,558,106.8
1984	325,233,918	316,280,548	8,953,370	5,232,782	1,310,016.9	2,749,633.9
1985	360,710,517	351,346,625	9,363,892	5,476,633	1,416,643.1	2,548,025.1
1986	396,961,967	387,599,481	9,362,486	6,153,247	1,980,248.3	3,728,296.2
1987	422,747,715	411,311,165	11,436,550	6,372,793	1,534,719.8	3,948,060.7
1988	426,937,914	413,790,076	13,147,838	6,426,421	1,626,030.8	4,550,772.8
1989	425,103,192	411,139,530	13,963,662	6,331,555	1,537,234.6	5,116,092.4
1990	433,254,832	NA	NA	6,572,179	1,558,021.6	4,629,653.7

[1] Includes operations of certificated all-cargo carriers.

NA--- No longer available.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.4 [1]
AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—U.S. TERRITORIES
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED OPERATIONS
1981–1990

Year	Enplaned Passenegers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1981	2,221,106	1,807,670	413,436	21,080	6,135.3	56,561.2
1982	2,210,575	1,718,635	491,940	28,414	5,770.7	56,612.0
1983	2,372,861	1,788,115	584,746	34,942	6,035.8	68,088.1
1984	2,537,084	1,888,024	649,060	34,196	6,746.3	69,167.6
1985	2,630,980	1,940,298	690,682	29,026	6,799.9	53,001.9
1986	3,046,033	2,249,694	796,339	38,960	6,856.5	62,206.8
1987	4,068,330	2,940,763	1,127,567	39,690	7,389.6	66,511.0
1988	4,478,219	3,081,000	1,397,219	43,435	8,143.1	75,496.4
1989	4,551,410	2,974,207	1,577,203	41,978	7,693.8	83,661.0
1990	5,289,169	NA	NA	69,502	8,076.5	103,072.3

[1] Includes operations of certificated all-cargo carriers.

NA—No longer available.

Source. RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.5 [1]
AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—FOREIGN COUNTRIES
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED OPERATIONS
1981–1989

Year	Enplaned Passenegers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1981	15,473,356	3,122,244	12,351,112	174,513	53,913.1	457,816.5
1982	14,787,796	2,912,514	11,875,282	176,314	55,722.8	505,703.0
1983	16,165,657	2,733,990	13,431,667	182,631	59,486.7	593,300.9
1984	17,060,716	2,967,837	14,092,879	182,563	72,391.5	760,414.6
1985	17,766,621	2,816,104	14,950,517	190,558	63,477.6	814,732.7
1986	18,555,577	3,418,820	15,136,757	209,392	78,068.8	928,041.1
1987	22,097,681	3,618,065	18,479,616	227,917	79,624.7	1,058,693.2
1988	24,610,239	3,455,139	21,155,100	254,589	83,564.8	1,233,769.8
1989	25,608,464	3,531,158	22,077,306	274,919	86,387.8	1,374,037.1
1990	NA	NA	NA	NA	NA	NA

[1] Includes operations of certificated all-cargo carriers.

NA—No longer available.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.6
SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER
12 MONTHS ENDED DECEMBER 31, 1990

Carrier Group Air Carrier	Operation	Service	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
			Total Performed	Scheduled		Freight	Mail
MAJORS							
AMERICA WEST	TOTAL	S	222374	225203	15531958	45777.11	36651.03
		NS	812		38629		
		AS	223186	225203	15570587	45777.11	36651.03
AMERICAN	TOTAL	S	784065	801974	68872287	370258.35	227641.38
		NS	278		13353		
		AS	784343	801974	68885640	370258.35	227641.38
CONTINENTAL	TOTAL	S	464736	472782	32637653	185083.46	90946.63
		NS	6621		733370		
		AS	471357	472782	33371023	185083.46	90946.63
DELTA	TOTAL	S	854723	860880	63471438	363270.61	267537.60
		NS	803		47708		
		AS	855526	860880	63519146	363270.61	267537.60
EASTERN	TOTAL	S	269326	273878	20739208	80521.10	56064.93
		NS	516		46315		
		AS	269842	273878	20785523	80521.10	56064.93
FEDERAL EXPRESS	TOTAL	S	203087	203087		2193547.62	23274.87
		NS	1620		224565	27368.92	
		AS	204707	203087	224565	2220916.54	23274.87
NORTHWEST	TOTAL	S	493034	502048	36508059	311485.87	153200.46
		NS	218		11785	588.23	
		AS	493252	502048	36519844	312074.10	153200.46
PAN AMERICAN	TOTAL	S	109477	105217	11052796	125899.08	47325.06
		NS	321		30128	34.12	
		AS	109798	105217	11082924	125933.20	47325.06
SOUTHWEST	TOTAL	S	338106	343234	22064129	14261.45	13260.68
		NS	144		15083		
		AS	338250	343234	22079212	14261.45	13260.68
TRANS WORLD	TOTAL	S	283409	289502	21786504	139436.69	113899.22
		NS	1930		198114		
		AS	285339	289502	21984618	139436.69	113899.22
UNITED	TOTAL	S	631639	642947	53618767	383908.85	254906.27
		NS	508		29191		
		AS	632147	642947	53647958	383908.85	254906.27
US AIR	TOTAL	S	1025870	1041998	59268063	104471.59	150831.95
		NS	2124		166330		
		AS	1027994	1041998	59434393	104471.59	150831.95
TOTAL, MAJORS	TOTAL	S	5679846	5762750	405550862	4317921.78	1435540.08
		NS	15895		1554571	27991.27	
		AS	5695741	5762750	407105433	4345913.05	1435540.08
NATIONALS							
AIR WISCONSIN	TOTAL	S	87492	93695	2247710	1017.41	1780.41
ALASKA	TOTAL	S	106713	107664	5243902	47848.13	33523.94
		NS	528		30010	472.28	385.84
		AS	107241	107664	5273912	48320.41	33909.78
ALOHA	TOTAL	S	67579	71367	4255617	9365.97	3597.02
		NS	160		5911	152.78	.07
		AS	67739	71367	4261528	9518.75	3597.09
AMERICAN TRANS	TOTAL	S	1392	944	217584		
		NS	966		111135		
		AS	2358	944	328719		
HAWAIIAN	TOTAL	S	71523	77527	4697129	19477.46	6362.79
		NS	1382		116840		
		AS	72905	77527	4813969	19477.46	6362.79
HORIZON AIR	TOTAL	S	155568	161606	1565980	4067.22	1140.87
		NS	123		6966		
		AS	155691	161606	1572946	4067.22	1140.87
MARKAIR	TOTAL	S	22458	24168	436809	20042.74	19795.20
		NS	917		1101	7939.91	
		AS	23375	24168	437910	27982.65	19795.20
MIDWAY	TOTAL	S	119801	122802	6359907	11594.45	21679.75
		NS	157		12026		
		AS	119758	122802	6371933	11594.45	21679.75
SOUTHERN AIR	TOTAL	S	2			.04	
		NS	29			3.05	
		AS	31			3.09	
TOWER	TOTAL	S	310	361	111183		
		NS	183		69864		
		AS	493	361	181047		
TRUMP	TOTAL	S	22375	22941	1711749		246.45
		NS	530		72676		
		AS	22905	22941	1784425		246.45
UNITED PARCEL	TOTAL	S	361	361		10566.51	
WESTAIR	TOTAL	S	180874	211116	2273405		
TOTAL, NATIONALS	TOTAL	S	836248	894552	29120975	123979.93	88126.43
		NS	4975		426529	8568.02	385.91
		AS	841223	894552	29547504	132547.95	88512.34

TABLE 4.6—Continued
SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER
12 MONTHS ENDED DECEMBER 31, 1990

Carrier Group Air Carrier	Operation	Service	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
			Total Performed	Scheduled		Freight	Mail
LARGE REGIONALS							
AMERIJET	TOTAL	S	2403	3218		2939.29	10.86
		NS	1331			2531.19	6.27
		AS	3734	3218		5470.48	17.13
ARROW	TOTAL	S	1040	986		41788.02	
		NS	1345			32732.26	
		AS	2385	986		74520.28	
ASPEN	TOTAL	S	11848	12823	390195	350.31	37.41
		NS	45		983		
		AS	11893	12823	391178	350.31	37.41
CHALLENGE	TOTAL	S	1251	1251		32476.79	1916.58
		NS	55			1598.58	.72
		AS	1306	1251		34075.37	1917.30
EMERALD	TOTAL	S	2				
		NS	5		300		
		AS	7		300		
EXECUTIVE AIRLINES	TOTAL	S	19873	20797	378362	15.49	10.45
EXPRESS ONE	TOTAL	S				1.02	
		NS	915		1048		
		AS	915		1048	1.02	
MGM GRAND	TOTAL	S	1290	1301	34907	211.95	458.73
		NS	56		1527		
		AS	1346	1301	36434	211.95	458.73
MIDWEST EXPRESS	TOTAL	S	21222	21553	754032	2561.59	5124.28
		NS	175		7002		
		AS	21397	21553	761034	2561.59	5124.28
NORTHERN AIR	TOTAL	S	8474	9187		27932.90	24875.37
		NS	935			6447.80	563.21
		AS	9409	9187		34380.70	25438.58
REEVE	TOTAL	S	2717	2678	39844	1436.00	3811.75
		NS	656		8650	535.88	353.02
		AS	3373	2678	48494	1971.88	4164.77
ROSENBALM	TOTAL	S	206	204		4673.71	
		NS	314			7926.43	
		AS	520	204		12600.14	
TRANS CONTINENTAL	TOTAL	S				1922.42	
		NS	646		4753		
		AS	646		4753	1922.42	
ZANTOP	TOTAL	S	7248	19799		63751.08	4877.00
		NS	12561			6306.03	
		AS	19809	19799		70057.11	4877.00
TOTAL, LARGE REGIONALS	TOTAL	S	77574	93797	1597340	180060.57	41122.43
		NS	19039		24263	58078.17	923.22
		AS	96613	93797	1621603	238138.74	42045.65
MEDIUM REGIONALS							
AERIAL TRANSIT	TOTAL	S	120	121		1918.10	
		NS	322			3999.11	
		AS	442	121		5917.21	
AIR TRANSPORT	TOTAL	S	238	217		8133.60	
		NS	4			110.37	
		AS	242	217		8243.97	
CONNER	TOTAL	S	110	116		1494.74	
DISCOVERY	TOTAL	S	5590	5638	103027		
		NS	2		76		
		AS	5592	5638	103103		
PACIFIC INTERSTATE	TOTAL	S	1312	1380	131755	467.62	
		NS	406		34603	2.77	
		AS	1718	1380	166358	470.39	
TOTAL, MEDIUM REGIONALS	TOTAL	S	7370	7472	234782	12014.06	
		NS	734		34679	4112.25	
		AS	8104	7472	269461	16126.31	
OVER ALL TOTAL, ALL CARRIERS	TOTAL	S	6601038	6758571	436503959	4633976.34	1564788.94
		NS	40643		2040042	98749.71	1309.13
		AS	6641681	6758571	438544001	4732726.05	1566098.07

TABLE 4.7
SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND U.S. AREA
12 MONTHS ENDED DECEMBER 31, 1990

State or County	Operation	Service	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
			Total Performed	Scheduled		Freight	Mail
50 U. S. STATES							
ALABAMA	TOTAL	S	42401	42815	1870502	12525.85	6371.63
		NS	101		1537	20.10	
		AS	42502	42815	1872039	12545.95	6371.63
ALASKA	TOTAL	S	74387	77171	2164181	335621.36	76734.23
		NS	3239		133935	26911.34	549.03
		AS	77626	77171	2298116	362532.70	77283.26
ARIZONA	TOTAL	S	174721	176855	12053249	46873.49	26594.75
		NS	784		24613	21.19	.03
		AS	175505	176855	12077862	46894.68	26594.78
ARKANSAS	TOTAL	S	15121	15532	950330	943.74	3616.92
		NS	257		1906		
		AS	15378	15532	952236	943.74	3616.92
CALIFORNIA	TOTAL	S	793056	832310	53285487	707961.18	168218.28
		NS	3023		271109	5261.42	.29
		AS	796079	832310	53556596	713222.60	168218.57
COLORADO	TOTAL	S	175594	178826	12865276	68597.59	39003.96
		NS	477		31501	142.49	10.30
		AS	176071	178826	12896777	68740.08	39014.26
CONNECTICUT	TOTAL	S	31784	32217	2310882	13996.06	14325.94
		NS	66		1573	436.02	
		AS	31850	32217	2312455	14432.08	14325.94
DELAWARE	TOTAL	S	2	35		284.30	
		NS	81			3165.24	
		AS	83	35		3449.54	
DIST. OF COL	TOTAL	S	177603	181101	11477384	64079.83	52690.93
		NS	91		5901		
		AS	177694	181101	11483285	64079.83	52690.93
FLORIDA	TOTAL	S	430165	435130	33807025	266598.00	83635.99
		NS	5418		274224	23648.86	6.28
		AS	435583	435130	34081249	290246.86	83642.27
GEORGIA	TOTAL	S	300718	305341	23365824	166971.12	93827.98
		NS	1306		20012	477.05	
		AS	302024	305341	23385836	167448.17	93827.98
HAWAII	TOTAL	S	175386	185244	14178467	158811.96	24396.47
		NS	1365		73984	827.65	.07
		AS	176751	185244	14252451	159639.61	24396.54
IDAHO	TOTAL	S	33233	34292	711895	4132.94	2159.49
		NS	309		979		
		AS	33542	34292	712874	4132.94	2159.49
ILLINOIS	TOTAL	S	400017	412902	29582564	306585.67	145171.10
		NS	431		11260	1106.71	
		AS	400448	412902	29593824	307692.38	145171.10
INDIANA	TOTAL	S	69125	70464	3100613	112815.72	11013.19
		NS	1003		60022	563.68	
		AS	70128	70464	3160635	113379.40	11013.19
IOWA	TOTAL	S	22518	22925	1077033	8108.23	10670.39
		NS	219		3258		
		AS	22737	22925	1080291	8108.23	10670.39
KANSAS	TOTAL	S	14049	14199	561432	6955.24	2928.32
		NS	22		789	.20	
		AS	14071	14199	562221	6955.44	2928.32
KENTUCKY	TOTAL	S	30301	30622	1224542	8500.03	6949.48
		NS	88		5791	1094.80	
		AS	30389	30622	1230333	9594.83	6949.48
LOUISIANA	TOTAL	S	69051	70182	4152146	22504.34	9492.24
		NS	577		12472	.59	
		AS	69628	70182	4164618	22504.93	9492.24
MAINE	TOTAL	S	12400	12487	600979	3633.69	2014.22
		NS	23		3263		
		AS	12423	12487	604242	3633.69	2014.22
MARYLAND	TOTAL	S	73394	74306	4414157	18279.88	19722.93
		NS	165		6390	110.95	
		AS	73559	74306	4420547	18390.83	19722.93
MASSACHUSETTS	TOTAL	S	116780	118965	9580982	127663.96	30503.05
		NS	699		73238	338.93	
		AS	117479	118965	9654220	128002.89	30503.05
MICHIGAN	TOTAL	S	174450	180691	11487946	78402.86	35841.45
		NS	2863		67117	3518.01	
		AS	177313	180691	11555063	81920.87	35841.45
MINNESOTA	TOTAL	S	120286	122634	9020210	67612.44	42996.44
		NS	822		70721	816.72	
		AS	121108	122634	9090931	68429.16	42996.44

TABLE 4.7—Continued
SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND U.S. AREA
12 MONTHS ENDED DECEMBER 31, 1990

State or County	Operation	Service	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
			Total Performed	Scheduled		Freight	Mail
MISSISSIPPI	TOTAL	S	10279	10686	451834	711.23	1814.79
		NS	320		535	1.01	
		AS	10599	10686	452369	712.24	1814.79
MISSOURI	TOTAL	S	188702	192559	12716933	67961.08	54689.01
		NS	1175		59017	178.71	
		AS	189877	192559	12775950	68139.79	54689.01
MONTANA	TOTAL	S	39971	41023	736448	6813.22	3193.05
		NS	308		146	19.00	
		AS	40279	41023	736594	6832.22	3193.05
NEBRASKA	TOTAL	S	25726	25924	1187492	6566.69	14456.51
		NS	172		6051	97.85	
		AS	25898	25924	1193543	6664.54	14456.51
NEVADA	TOTAL	S	112854	114375	8992136	14604.57	14675.92
		NS	1244		147701	44.99	
		AS	114098	114375	9139837	14649.56	14675.92
NEW HAMPSHIRE	TOTAL	S	6328	6459	267366	7092.79	632.01
		NS	20		597		
		AS	6348	6459	267963	7092.79	632.01
NEW JERSEY	TOTAL	S	130585	134061	9872208	156356.29	34065.82
		NS	1360		107692	7618.20	
		AS	131945	134061	9979900	163974.49	34065.82
NEW MEXICO	TOTAL	S	36056	36345	2385196	5657.36	6441.62
		NS	33		2025		
		AS	36089	36345	2387221	5657.36	6441.62
NEW YORK	TOTAL	S	325532	330845	26179005	332373.28	121655.11
		NS	1321		84049	2272.52	
		AS	326853	330845	26263054	334645.80	121655.11
NORTH CAROLINA	TOTAL	S	221685	225198	12808624	63150.41	27722.17
		NS	187		9964	450.50	
		AS	221872	225198	12818588	63600.91	27722.17
NORTH DAKOTA	TOTAL	S	13139	13577	482845	3392.74	1708.05
		NS	374				
		AS	13513	13577	482845	3392.74	1708.05
OHIO	TOTAL	S	221476	225508	11688375	67075.70	43754.53
		NS	1410		30817	5314.08	
		AS	222886	225508	11719192	72389.78	43754.53
OKLAHOMA	TOTAL	S	50275	51503	3000144	13711.63	10506.08
		NS	801		3083	552.46	
		AS	51076	51503	3003227	14264.09	10506.08
OREGON	TOTAL	S	95353	97446	3440184	34684.56	12554.60
		NS	190		8480	1234.16	.27
		AS	95543	97446	3448664	35918.72	12554.87
PENNSYLVANIA	TOTAL	S	258903	262701	15898936	80358.02	68652.38
		NS	754		61446	1192.92	
		AS	259657	262701	15960382	81550.94	68652.38
RHODE ISLAND	TOTAL	S	16865	17113	1059043	2372.95	3402.81
		NS	25		1676		
		AS	16890	17113	1060719	2372.95	3402.81
SOUTH CAROLINA	TOTAL	S	43061	43621	1848691	10323.31	4789.85
		NS	54		3807	6.03	
		AS	43115	43621	1852498	10329.34	4789.85
SOUTH DAKOTA	TOTAL	S	10647	11069	330128	1830.40	1997.39
		NS	374		144		
		AS	11021	11069	330272	1830.40	1997.39
TENNESSEE	TOTAL	S	169801	171595	8123736	628009.09	23443.63
		NS	327		4795	992.19	
		AS	170128	171595	8128531	629001.28	23443.63
TEXAS	TOTAL	S	615447	624402	46323035	246578.09	124702.97
		NS	1837		112606	823.06	
		AS	617284	624402	46435641	247401.15	124702.97
UTAH	TOTAL	S	76524	78363	5235804	35305.65	18771.80
		NS	2454		152374		16.80
		AS	78978	78363	5388178	35305.65	18788.60
VERMONT	TOTAL	S	7648	7830	306489	1738.48	1143.32
VIRGINIA	TOTAL	S	63165	64233	2505231	11198.71	6630.57
		NS	79		2605	9.04	
		AS	63244	64233	2507836	11207.75	6630.57
WASHINGTON	TOTAL	S	185660	191275	8407649	111115.87	36732.17
		NS	1396		49580	2581.84	726.06
		AS	187056	191275	8457229	113697.71	37458.23
WEST VIRGINIA	TOTAL	S	7612	7798	234013	913.86	313.12
WISCONSIN	TOTAL	S	65834	68199	2767009	18616.36	9379.88
		NS	226		12006		
		AS	66060	68199	2779015	18616.36	9379.88
WYOMING	TOTAL	S	6264	6697	145813	831.40	3.89
		NS	375		568		
		AS	6639	6697	146381	831.40	3.89

TABLE 4.7—Continued
SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND U.S.AREA
12 MONTHS ENDED DECEMBER 31, 1990

State or County	Operation	Service	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
			Total Performed	Scheduled		Freight	Mail
TOTAL FOR 50 U. S. STATES	TOTAL	S	6531934	6687851	431237473	4537803.22	1556712.43
		NS	40245		2017359	91850.51	1309.13
		AS	6572179	6687851	433254832	4629653.73	1558021.56
OTHER U. S. AREAS							
AMERICAN SAMOA	TOTAL	S	387	384	25306	122.11	67.33
		NS	1				
		AS	388	384	25306	122.11	67.33
PALAU ISLANDS	TOTAL	S	708	802	34284	1295.67	24.34
GUAM	TOTAL	S	6871	7024	754219	20802.66	2357.57
		NS	99		16330		
		AS	6970	7024	770549	20802.66	2357.57
JOHNSTON ISLAND	TOTAL	S	254	259	383	5.93	7.43
MARIANA ISLANDS	TOTAL	S	5850	5778	309888	2060.69	113.70
		NS	9		447		
		AS	5859	5778	310335	2060.69	113.70
PUERTO RICO	TOTAL	S	42321	43374	3663066	70679.84	4921.21
		NS	272		4755	6899.20	
		AS	42593	43374	3667821	77579.04	4921.21
ST.THOMAS, U.S. VIRGIN ISLANDS	TOTAL	S	12713	13099	479340	1206.22	584.93
		NS	17		1151		
		AS	12730	13099	480491	1206.22	584.93
TOTAL FOR OTHER U. S. AREAS	TOTAL	S	69104	70720	5266486	96173.12	8076.51
		NS	398		22683	6899.20	
		AS	69502	70720	5289169	103072.32	8076.51
OVER ALL TOTAL FOR ALL STATES, AND OTHER U.S. AREAS	TOTAL	S	6601038	6758571	436503959	4633976.34	1564788.94
		NS	40643		2040042	98749.71	1309.13
		AS	6641681	6758571	438544001	4732726.05	1566098.07

TABLE 4.8
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplanements	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
ATLANTA, GEORGIA						
(WILLIAM B HARTSFIELD INT'L)	5.17	285693	288803	22665665	165668.76	93039.48
BALTIMORE, MARYLAND						
(BALTO/WASH INTL)	1.01	73300	74048	4420425	18041.52	19722.93
BOSTON, MASSACHUSETTS						
(LOGAN INTERNATIONAL)	2.18	114153	115524	9549585	127815.09	29785.72
CHARLOTTE, NORTH CAROLINA						
(DOUGLAS MUNI)	1.61	120210	121798	7076954	36242.84	15399.46
CHICAGO, ILLINOIS						
(MIDWAY)	0.81	64465	66389	3547040	4494.78	4485.58
(O'HARE INTERNATIONAL)	5.85	322430	332338	25636383	300463.80	140359.38
(PAL-WAUKEE)	0.00	1	1		.65	
COMMUNITY TOTAL	6.65	386896	398728	29183423	304959.23	144844.96
DALLAS/FT.WORTH, TEXAS						
(ADDISON)	0.00	1	1		.90	
(CARSWELL AFB)	0.00					
	1					
	1					
(DALLAS/FT.WORTH INTL)	5.22	266737	269665	22899267	142660.95	86706.76
(LOVE FIELD)	0.66	39481	40196	2882836	2216.70	242.87
(MEACHAM FIELD)	0.00	1	2			
COMMUNITY TOTAL	5.88	306221	309865	25782103	144878.55	86949.63
DENVER, COLORADO						
(STAPLETON INTERNATIONAL)	2.73	154067	156293	11961839	67345.75	38043.73
DETROIT, MICHIGAN						
(DETROIT CITY)	0.08	6828	7162	362655	258.08	
(WAYNE COUNTY)	2.26	134929	137565	9903078	42831.24	32429.74
(WILLOW RUN)	0.00	4241	4024	35	33858.26	1249.00
COMMUNITY TOTAL	2.34	145998	148751	10265768	76947.58	33678.74
HONOLULU, OAHU, HAWAII						
(HONOLULU INTERNATIONAL)	2.05	92659	96780	9002217	139496.57	19951.37
HOUSTON, TEXAS						
(HOUSTON INTERCONTINENTAL)	1.72	104249	105330	7543899	62425.36	21073.85
(WILLIAM P HOBBY)	0.91	61387	62582	3972327	3787.82	790.44
(ELLINGTON FIELD)	0.00	1188	1253	18967	199.45	1.46
COMMUNITY TOTAL	2.63	166824	169165	11535193	66412.63	21865.75
LAS VEGAS, NEVADA						
(MC CARRAN INTL)	1.78	92196	92072	7796218	11288.52	13132.33
(NELLIS AFB)	0.00	292	292			
COMMUNITY TOTAL	1.78	92488	92364	7796218	11288.52	13132.33

TABLE 4.8—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
12 MONTHS END.. D DECEMBER 31, 1990

Community (Airport Name)	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
LOS ANGELES/BURBNK/LNG.BCH,CAL						
(HOLLYWOOD-BURBANK)	0.39	30444	30968	1698739	6414.64	1673.24
(LONG BEACH)	0.16	14443	14712	692995	7837.98	929.96
(LOS ANGELES INTERNATIONAL)	4.20	213302	215740	18438056	352823.50	71588.84
(ORANGE COUNTY)	0.50	37275	38137	2203700	1163.62	173.94
COMMUNITY TOTAL	5.25	295464	29955.	23033490	368239.74	74365.98
MIAMI/FT. LAUDERDALE, FLORIDA						
(MIAMI INTERNATIONAL)	2.10	106858	105658	9226103	187247.24	33739.59
(FT. LAUDERDALE-HOLLYWOOD INTL)	0.88	46584	46508	3875357	38330.43	7842.12
COMMUNITY TOTAL	2.99	153442	152166	13101460	225577.67	41581.71
MINNEAPOLIS/ST. PAUL,MINNESOTA						
(MINNEAPOLIS-ST PAUL INTL)	2.02	114872	116312	8837228	68045.03	42973.80
NEWARK, NEW JERSEY						
(NEWARK)	2.25	130286	132817	9853925	163211.63	34065.82
NEW YORK, NEW YORK						
(JOHN F KENNEDY INTL)	2.21	74659	74507	9687068	275998.91	70305.53
(LA GUARDIA)	2.45	129670	131310	10725465	23086.56	35713.98
COMMUNITY TOTAL	4.65	204329	205817	20412533	299085.47	106019.51
ORLANDO, FLORIDA						
(ORLANDO INTERNATIONAL)	1.75	84924	84328	7677769	23940.73	12083.04
PHILADELPHIA,PA/CAMDEN,NJ						
(INTERNATIONAL)	1.59	105830	107331	6970820	49572.70	42422.69
PHOENIX, ARIZONA						
(PHOENIX SKY HARBOR INTL)	2.45	148342	149274	10727494	42604.71	23812.85
(LUKE AFB)	0.00	73	73			
COMMUNITY TOTAL	2.45	148415	149347	10727494	42604.71	23812.85
PITTSBURGH,PA/WHEELING W VA						
(GREATER PITTSBURGH)	1.80	125276	126550	7912394	21668.06	24285.06
ST. LOUIS, MISSOURI						
(LAMBERT-ST LOUIS MUNI)	2.13	135089	137711	9332091	49363.12	37674.06
SALT LAKE CITY, UTAH						
(SALT LAKE CITY INTL)	1.23	77368	76754	5388178	35247.01	18788.60
SAN DIEGO, CALIFORNIA						
(SAN DIEGO INTL-LINDBERGH)	1.20	70156	70893	5260907	18882.04	8822.78
SAN FRANCISCO/OAKLAND, CAL.						
(BUCHANAN FIELD)	0.01	1286	1334	49532	7.95	
(OAKLAND METROPOLITAN INTL)	0.61	45986	46217	2670788	69875.80	3697.09
(SAN FRANCISCO INTL)	3.07	172007	187581	13474929	216259.94	55236.27
COMMUNITY TOTAL	3.69	219279	235132	16195249	286143.69	58933.36

TABLE 4.8—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
SEATTLE/TACOMA, WASHINGTON						
(BOEING FIELD INTL.)	0.00	43	10	2154	.28	.61
(SEATTLE-TACOMA INTERNATIONAL)	1.68	122226	124518	7385594	103409.85	34636.56
COMMUNITY TOTA'	1.68	122269	124528	7387748	103410.13	34637.17
TAMPA&ST.PTSBG/CLWTR&LKLND,FLA						
(TAMPA INTERNATIONAL)	1.09	64396	64735	4781020	23048.08	17017.79
(ST. PETERSBURG/CLWTR INTL)	0.00	2		118		
(MACDILL AFB)	0.00	268	268			
COMMUNITY TOTAL	1.09	64666	65003	4781138	23048.08	17017.79
WASHINGTON, DIST. OF COL.						
(DULLES INTERNATIONAL)	1.01	80651	82588	4448592	53609.69	25349.58
(WASHINGTON NATIONAL)	1.60	97043	98513	7034693	10470.14	27341.35
COMMUNITY TOTAL	2.62	177694	181101	11483285	64079.83	52690.93
OVER-ALL TOTAL, LARGE HUBS	72.42	4167868	4237466	317595099	3001216.68	1146589.25

TABLE 4.9
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name) Mail	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Express
ALBUQUERQUE, NEW MEXICO						
(ALBUQUERQUE INTL)	0.54	34138	34386	2384647	5286.72	6441.62
(DOUBLE EAGLE II)	0.00	1	1		.20	
COMMUNITY TOTAL	0.54	34139	34387	2384647	5286.92	6441.62
ANCHORAGE, ALASKA						
(ANCHORAGE INTERNATIONAL)	0.31	35891	35273	1362282	318663.23	62566.44
(ELMENDORF AFB)	0.00	31	12	61	220.41	.57
COMMUNITY TOTAL	0.31	35922	35285	1362343	318883.64	62567.01
AUSTIN, TEXAS						
(ROBERT MUELLER MUNI)	0.47	31494	31718	2054955	7549.00	3941.16
BUFFALO&NIAGARA FALLS,NEW YORK						
(GREATER BUFFALO INTERNATIONAL)	0.37	30554	30926	1637293	8505.88	3962.18
CINCINNATI, OHIO						
(GREATER CINCINNATI)	0.89	65533	66217	3907625	16808.48	14295.54
(LUKEN FIELD)	0.00	1	1			
COMMUNITY TOTAL	0.89	65534	66218	3907625	16808.48	14295.54
CLEVELAND, OHIO						
(BURKE LAKEFRONT)	0.00	1	1		.19	
(HOPKINS INTERNATIONAL)	0.87	76988	78018	3836050	19467.41	10427.55
COMMUNITY TOTAL	0.87	76989	78019	3836050	19467.60	10427.55
COLUMBUS, OHIO						
(PORT COLUMBUS INTERNATIONAL)	0.38	29986	30338	1685100	3407.81	11595.43
(LOCKBOURN AFB)	0.00	1735	1733		11311.08	99.03
COMMUNITY TOTAL	0.38	31721	32071	1685100	14718.89	11694.46
DAYTON, OHIO						
(JAMES M COX/DAYTON INTL)	0.42	36966	37191	1845160	20922.76	6306.52
(WRIGHT-PATTERSON AFB)	0.00	371	371			
COMMUNITY TOTAL	0.42	37337	37562	1845160	20922.76	6306.52
EL PASO, TEXAS						
(EL PASO INTERNATIONAL)	0.38	28333	28519	1673243	4824.94	1760.09
(BIGGS AAF)	0.00	18	18	827		
COMMUNITY TOTAL	0.38	28351	28537	1674070	4824.94	1760.09
FORT MYERS, FLORIDA						
(PAGE FIELD)	0.00	2	2		1.43	
(SOUTHWEST)	0.39	22210	22149	1712679	2435.07	1699.90
COMMUNITY TOTAL	0.39	22212	22151	1712679	2436.50	1699.90
HARTFORD/SPRNGFLD/WESTFLD, CT						
(BRADLEY INTERNATIONAL)	0.53	31850	32217	2312455	14432.08	14325.94

TABLE 4.9—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name) Mail	% of Enplanements	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Express
INDIANAPOLIS, INDIANA						
(INDIANAPOLIS INTERNATIONAL)	0.59	53471	53125	2601839	110350.63	9713.05
JACKSONVILLE, FLORIDA						
(JACKSONVILLE INTERNATIONAL)	0.29	24585	24854	1266677	8073.55	5411.32
(JACKSONVILLE NAS)	0.00	242	242			
COMMUNITY TOTAL	0.29	24827	25096	1266677	8073.55	5411.32
KAHULUI, MAUI, HAWAII						
(KAHULUI)	0.48	29624	31427	2094390	9015.42	1605.24
KANSAS CITY, MISSOURI						
(INTERNATIONAL)	0.77	52781	52834	3358116	18041.40	17014.09
LIHUE, KAUAI, HAWAII						
(LIHUE)	0.29	18704	19724	1264738	969.51	742.14
MEMPHIS, TENNESSEE						
(MEMPHIS INTERNATIONAL)	0.89	94420	95198	3887208	614223.60	13168.89
MILWAUKEE, WISCONSIN						
(GENERAL MITCHELL FIELD)	0.44	39724	40661	1915390	11747.66	8317.82
NASHVILLE, TENNESSEE						
(METROPOLITAN)	0.78	57474	58060	3404243	7453.14	7887.41
NEW ORLEANS, LOUISIANA						
(INTERNATIONAL/MOISANT FIELD)	0.77	49121	49606	3361062	15439.58	6139.07
(LAKEFRONT)	0.00	1	1		.50	
COMMUNITY TOTAL	0.77	49122	49607	3361062	15440.08	6139.07
NORFLK/VA BCH/PTSMH/CHESPKE,VA						
(NORFOLK REGIONAL)	0.29	26495	26824	1254846	5371.22	2530.79
(CHAMBERS NAS)	0.00	30			2.91	
COMMUNITY TOTAL	0.29	26525	26824	1254846	5374.13	2530.79
OKLAHOMA CITY, OKLAHOMA						
(WILL ROGERS WORLD)	0.35	25347	25550	1519518	5316.15	4923.59
(TINKER AFB)	0.00	750	732		706.90	
COMMUNITY TOTAL	0.35	26097	26282	1519518	6023.05	4923.59
ONTARIO/SAN BERNARD/RIVERSE,CA						
(ONTARIO INTERNATIONAL)	0.60	40925	41200	2640734	8488.64	10668.98
(NORTON AFB)	0.00	223	223	398		
COMMUNITY TOTAL	0.60	41148	41423	2641132	8488.64	10668.98
PORTLAND, OREGON						
(PORTLAND INTERNATIONAL)	0.69	69578	70763	3025345	33735.01	11622.95
RALEIGH/DURHAM, NORTH CAROLINA						
(RALEIGH-DURHAM)	0.99	66211	67304	4361369	16302.95	8429.76

TABLE 4.9—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name) Mail	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Express
RENO, NEVADA						
(RENO INTL)	0.31	21609	22010	1343619	3361.04	1543.59
ROCHESTER, NEW YORK						
(ROCHESTER-MONROE COUNTY)	0.26	25132	25585	1154747	8092.40	2910.75
SACRAMENTO, CALIFORNIA						
(SACRAMENTO METROPOLITAN)	0.40	39723	47086	1737096	5991.77	10284.73
(MCCLELLAN AFB)	0.00	30	30			
COMMUNITY TOTAL	0.40	39753	47116	1737096	5991.77	10284.73
SAN ANTONIO, TEXAS						
(SAN ANTONIO INTERNATIONAL)	0.59	39740	40020	2593896	10049.59	7584.84
(KELLY AFB)	0.00	356	356			
COMMUNITY TOTAL	0.59	40096	40376	2593896	10049.59	7584.84
SAN JOSE, CALIFORNIA						
(SAN JOSE MUNI)	0.71	49173	50096	3128393	20971.84	3966.67
SAN JUAN, PUERTO RICO						
(LUIS MUNOZ MARIN INTL)	0.83	39208	39840	3618090	72918.13	4916.59
SYRACUSE, NEW YORK						
(CLARENCE E HANCOCK)	0.27	29514	30065	1166598	11243.51	4347.42
TUCSON, ARIZONA						
(TUCSON INTL)	0.29	20201	20413	1263509	3709.47	2740.06
TULSA, OKLAHOMA						
(TULSA INTL)	0.34	24975	25217	1483037	8241.04	5582.49
WEST PALM BEACH/PALM BEACH,FLA						
(PALM BEACH INTERNATIONAL)	0.59	29363	29625	2609138	3089.87	3424.48
OVER-ALL TOTAL, MEDIUM HUBS	18.35	1394833	1417762	80466373	1446744.12	292896.69

TABLE 4.10
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
AKRON/CANTON, OHIO						
(AKRON-CANTON)	0.05	5606	5806	230249	334.41	893.32
ALBANY, NEW YORK						
(ALBANY COUNTY)	0.20	15007	15295	878372	2184.93	2712.69
ALLENTOWN/BETHLEHEM/EASTON, PA						
(ALLENTOWN-BETHLEHEM-EASTON)	0.08	7744	7807	349358	2017.81	350.30
AMARILLO/BORGER, TEXAS						
(AMARILLO AIR TERMINAL)	0.10	6616	6668	435297	327.14	781.19
BATON ROUGE, LOUISIANA						
(RYAN)	0.10	8837	8921	423808	526.69	1625.13
BILLINGS, MONTANA						
(LOGAN FIELD)	0.05	8741	8868	237699	420.69	1738.63
BIRMINGHAM, ALABAMA						
(BIRMINGHAM MUNI)	0.23	20112	20185	1001983	5937.63	5255.40
BOISE, IDAHO						
(BOISE AIR TERMINAL/GOWEN FLD)	0.12	16802	17121	525092	3007.15	1941.86
BROWNSVILLE/HRLGN/SAN BNTO,TEX						
(HARLINGEN INDUSTRIAL AIRPARK)	0.12	7444	7527	529042	3656.57	9.01
(SOUTH PADRE ISLAND INTL)	0.00	1	1		2.00	
COMMUNITY TOTAL	0.12	7445	7528	529042	3658.57	9.01
BURLINGTON, VERMONT						
(BURLINGTON INTERNATIONAL)	0.07	7507	7689	306489	1682.98	1143.32
CEDAR RAPIDS/IOWA CITY, OWA						
(CEDAR RAPIDS MUNI)	0.08	7753	7810	341142	5937.53	1623.80
CHARLESTON, SOUTH CAROLINA						
(CHARLESTON AFB/MUNI)	0.14	14215	14380	631956	2179.36	866.09
CHARLOTTE AMALIE,ST. THOMAS,VI						
(HARRY S.TRUMAN)	0.08	6957	7236	357133	660.84	387.03
CHATTANOOGA, TENNESSEE						
(LOVELL FIELD)	0.05	5327	5388	239746	1045.56	197.31
COLORADO SPRINGS, COLORADO						
(PETERSON FIELD)	0.13	10903	11001	551507	638.32	671.96
COLUMBIA, SOUTH CAROLINA						
(COLUMBIA METROPOLITAN)	0.12	13531	13673	512759	6554.20	2009.81

TABLE 4.10—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplanements	Aircraft Departures		Enplaned Passengers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
CORPUS CHRISTI, TEXAS						
(CORPUS CHRISTI INTERNATIONAL)	0.10	6651	6756	423498	298.30	639.46
DAYTONA BEACH, FLORIDA						
(DAYTONA BEACH REGIONAL)	0.11	7514	7507	490336	377.78	89.18
DES MOINES, IOWA						
(DES MOINES MUNI)	0.15	12144	12256	658619	1705.15	9042.02
EUGENE, OREGON						
(MAHLON SWEET FIELD)	0.05	8074	8252	224658	857.10	601.00
FAIRBANKS, ALASKA						
(FAIRBANKS INTERNATIONAL)	0.05	6150	6167	233809	6573.16	6431.49
(FORT WAINWRIGHT)	0.00	6	6		116.00	
COMMUNITY TOTAL	0.05	6156	6173	233809	6689.16	6431.49
FORT WAYNE, INDIANA						
(MUNICIPAL/BAER FIELD)	0.06	7851	8062	242000	1114.74	662.03
FRESNO, CALIFORNIA						
(FRESNO AIR TERMINAL)	0.09	20879	20993	393442	887.12	963.19
GRAND RAPIDS, MICHIGAN						
(KENT COUNTY)	0.14	13086	13366	614280	4010.83	1650.33
GREENSBORO/HIGH PT/WINSTN,N.C.						
(GREENSBORO-HIGH PT-WINSTN REG.)	0.20	23519	23906	894532	9801.19	3841.67
GREENVILLE/SPARTANBURG, SC						
(GREENVILLE/SPARTANBURG)	0.11	11580	11739	503271	1314.55	1908.97
(DONALDSON CENTER)	0.00	60	60		61.15	
COMMUNITY TOTAL	0.11	11640	11799	503271	1375.70	1908.97
GUAM, GUAM						
(AGANA FIELD)	0.18	6952	7023	770549	20802.66	2357.57
(ANDERSON AFB)	0.00	18	1			
COMMUNITY TOTAL	0.18	6970	7024	770549	20802.66	2357.57
HARRISBURG/YORK, PA.						
(HARRISBURG INTERNATIONAL)	0.10	10537	10746	437341	5692.89	1579.88
HILO, HAWAII, HAWAII						
(GENERAL LYMAN FIELD)	0.15	10868	10817	651191	4522.27	1139.18
HUNTSVILLE, ALABAMA						
(MADISON COUNTY)	0.09	9880	10043	381668	734.72	457.42
INDIO/PALM SPRINGS, CALIFORNIA						
(PALM SPRINGS MUNI)	0.08	9270	9456	353294	151.42	54.68

TABLE 4.10—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
ISLIP, LONG ISLAND, NEW YORK						
(LONG ISLAND-MACARTHUR)	0.10	7001	7203	422400	542.59	1484.22
JACKSON-VICKSBURG, MISS.						
(ALLEN C THOMPSON FIELD)	0.09	9001	9082	391018	543.63	1812.42
KAILUA-KONA, HAWAII, HAWAII						
(KE-AHOLE)	0.22	14800	15527	977274	5166.70	887.18
KNOXVILLE, TENNESSEE						
(MC GHEE TYSON)	0.11	10228	10234	477768	6192.36	1644.97
LEXINGTON/FRANKFORT, KENTUCKY						
(BLUE GRASS)	0.07	7811	7913	291634	373.87	1331.34
LITTLE ROCK, ARKANSAS						
(ADAMS FIELD)	0.22	15154	15310	950540	918.25	3616.92
LOUISVILLE, KENTUCKY						
(STANDIFORD FIELD)	0.21	21813	21944	937645	8725.05	5618.14
LUBBOCK, TEXAS						
(LUBBOCK REGIONAL)	0.14	11574	11691	611413	7282.66	546.74
MADISON, WISCONSIN						
(TRUAX FIELD)	0.10	8926	9158	425563	4044.83	873.45
MANCHESTER/CONCORD,N.HAMPSHIRE						
(MUNICIPAL)	0.06	6344	6455	267963	7091.74	632.01
MELBOURNE, FLORIDA						
(CAPE KENNEDY REGIONAL)	0.06	5838	5866	360126	133.58	34.15
MIDLAND/ODESSA, TEXAS						
(MIDLAND REGIONAL)	0.13	8675	8762	580905	559.51	300.62
MOBILE, AL/PASCAGOULA, MISS						
(BATES FIELD)	0.09	9734	9824	380798	5438.91	646.60
MOLINE, ILLINOIS						
(QUAD-CITY)	0.05	6286	6553	220093	394.09	310.27
OMAHA, NEBRASKA						
(EPPLEY AIRFIELD)	0.23	19952	19951	994132	5701.22	14391.15
(OFFUTT AFB)	0.00	2	2			
(MILLARD)	0.00	12			241.00	
COMMUNITY TOTAL	0.23	19966	19953	994132	5942.22	14391.15
PENSACOLA, FLORIDA						
(PENSACOLA REGIONAL)	0.09	8765	8930	394222	864.82	1429.55
PORTLAND, MAINE						
(PORTLAND INTERNATIONAL JETPORT)	0.11	8712	8956	472393	2526.91	1552.77
PROVIDENCE, RHODE ISLAND						
(THEODORE FRANCIS GREEN STATE)	0.24	16890	17113	1060719	2372.95	3402.81
RICHMOND, VIRGINIA						
(RICHARD E BYRD FLYING FIELD)	0.20	20443	20652	864381	5403.95	3507.87

TABLE 4.10—Continued
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1990

Community (Airport Name)	% of Enplane-ments	Aircraft Departures		Enplaned Passen-gers	Enplaned Revenue Tons	
		Total Performed	Scheduled		Freight	Mail
ROANOKE, VIRGINIA						
(ROANOKE MUNI)	0.05	7143	7347	224595	257.83	587.41
SAGINAW/BAY CITY/MIDLAND,MICH.						
(TRI CITY)	0.05	3952	4036	219310	278.94	175.60
SAIPAN, MARIANA ISLANDS						
(SAIPAN INTERNATIONAL)	0.06	4037	3871	279019	1900.96	105.01
SANTA BARBARA CALIFORNIA						
(SANTA BARBARA)	0.05	9999	10263	226472	806.88	.01
(SANTA MARIA PUBLIC)	0.00	1740	1810	6213	197.65	
COMMUNITY TOTAL	0.05	11739	12073	232685	1004.53	.01
SARASOTA/BRADENTON, FLORIDA						
(SARASOTA-BRADENTON)	0.23	15765	15990	989935	542.07	71.36
SAVANNAH, GEORGIA						
(SAVANNAH INTL)	0.12	11089	11270	520881	1306.61	768.92
(HUNTER AAF)	0.00	6	6	1535		
COMMUNITY TOTAL	0.12	11095	11276	522416	1306.61	768.92
SHREVEPORT, LOUISIANA						
(SHREVEPORT REGIONAL)	0.06	7656	7639	257229	6198.18	1618.82
(BARKSDALE AFB)	0.00	289	289			
COMMUNITY TOTAL	0.06	7945	7928	257229	6198.18	1618.82
SIOUX FALLS, SOUTH DAKOTA						
(JOE FOSS FIELD)	0.05	6466	6514	226436	1163.97	1556.28
SOUTH BEND, INDIANA						
(MICHIANA REGIONAL)	0.05	6630	7072	224050	1826.00	212.82
SPOKANE, WASHINGTON						
(SPOKANE INTERNATIONAL)	0.17	25315	25837	747329	7827.61	2283.69
(FAIRCHILD AFB)	0.00	294	293			
COMMUNITY TOTAL	0.17	25609	26130	747329	7827.61	2283.69
TALLAHASSEE, FLORIDA						
(TALLAHASSEE MUNI)	0.09	9193	9306	381840	1492.52	699.40
WICHITA, KANSAS						
(MID-CONTINENT)	0.13	13772	13901	561432	6905.22	2928.32
(MCCONNELL AFB)	0.00	1	1			
COMMUNITY TOTAL	0.13	13773	13902	561432	6905.22	2928.32
OVER-ALL TOTAL, SMALL HUBS	7.02	869450	879103	30771383	191357.90	106655.74

TABLE 4.11
TOP 100 AIRPORTS
IN RANK ORDER BY TOTAL ENPLANED PASSENGERS
LARGE SCHEDULED CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED OPERATIONS
1990

Rank	Airport	Total Enplaned Passengers	Rank	Airport	Total Enplaned Passengers
1	Chicago (O'Hare), IL	25,636,383	51	Orange County, CA	2,203,700
2	Dallas/Ft. Worth (Regional), TX	22,899,267	52	Kahului, Maui, HI	2,094,390
3	Atlanta, GA	22,665,665	53	Austin, TX	2,054,955
4	Los Angeles, CA	18,438,056	54	Milwaukee, WI	1,915,390
5	San Francisco, CA	13,474,929	55	Dayton, OH	1,845,160
6	Denver, CO	11,961,839	56	Sacramento, CA	1,737,096
7	Phoenix, AZ	10,727,494	57	Ft. Myers, FL	1,712,679
8	New York (La Guardia), NY	10,725,465	58	Burbank, CA	1,698,739
9	Detroit, MI	9,903,078	59	Columbus, OH	1,685,100
10	Newark, NJ	9,853,925	60	El Paso, TX	1,673,243
11	New York (John F. Kennedy), NY	9,687,068	61	Buffalo, NY	1,637,293
12	Boston, MA	9,549,585	62	Okalahoma City, OK	1,519,518
13	St. Louis, MO	9,332,091	63	Tulsa, OK	1,483,037
14	Miami, FL	9,226,103	64	Anchorage, AK	1,362,282
15	Honolulu, Oahu, HI	9,002,217	65	Reno, NV	1,343,619
16	Minneapolis/St. Paul, MN	8,837,228	66	Jacksonville, FL	1,266,677
17	Pittsburgh, PA	7,912,394	67	Lihue, Kauai, HI	1,264,738
18	Las Vegas, NV	7,796,218	68	Tucson, AZ	1,263,509
19	Orlando, FL	7,677,769	69	Norfolk, VA	1,254,846
20	Houston (Intercontinental), TX	7,543,899	70	Syracuse, NY	1,166,598
21	Seattle-Tacoma, WA	7,385,594	71	Rochester, NY	1,154,747
22	Charlotte, NC	7,076,954	72	Providence, RI	1,060,719
23	Washington (National), DC	7,034,693	73	Birmingham, AL	1,001,983
24	Philadelphia, PA	6,970,820	74	Omaha, NE	994,132
25	Salt Lake City, UT	5,388,178	75	Sarasota, FL	989,935
26	San Diego, CA	5,260,907	76	Kailua-Kona, Hawaii, HI	977,274
27	Tampa, FL	4,781,020	77	Little Rock, AR	950,540
28	Washington (Dulles Int'l), DC	4,448,592	78	Louisville, KY	937,645
29	Baltimore, MD	4,420,425	79	Greensboro, NC	894,532
30	Raleigh/Durham, NC	4,361,369	80	Albany, NY	878,372
31	Houston (William P. Hobby), TX	3,972,327	81	Richmond, VA	864,389
32	Cincinnati, OH	3,907,625	82	Guam, Guam	770,549
33	Memphis, TN	3,887,208	83	Spokane, WA	747,329
34	Ft. Lauderdale, FL	3,875,357	84	Long Beach, CA	692,995
35	Cleveland, OH	3,836,050	85	Des Moines, IA	658,619
36	San Juan, PR	3,618,090	86	Hilo, HI	651,191
37	Chicago (Midway), IL	3,547,040	87	Charleston, SC	631,956
38	Nashville, TN	3,404,243	88	Grand Rapids, MI	614,280
39	New Orleans, LA	3,361,062	89	Lubbock, TX	611,413
40	Kansas City, MO	3,358,116	90	Midland, TX	580,905
41	San Jose, CA	3,128,393	91	Wichita, KS	561,432
42	Portland, OR	3,025,345	92	Colorado Springs, CO	551,507
43	Dallas (Love Field), TX	2,882,836	93	Brownsville, TX	529,042
44	Oakland, CA	2,670,788	94	Boise, ID	525,092
45	Ontario, CA	2,640,734	95	Savannah, GA	520,881
46	West Palm Beach, FL	2,609,138	96	Columbia, SC	512,759
47	Indianapolis, IN	2,601,839	97	Greenville, SC	503,271
48	San Antonio, TX	2,593,896	98	Daytona Beach, FL	490,336
49	Albuquerque, NM	2,384,647	99	Knoxville, TN	477,768
50	Hartford, CT	2,312,455	100	Portland, ME	472,393

V. U.S. CIVIL AIR CARRIER FLEET

U.S. air carrier fleet data shown in this chapter were developed from monthly Aircraft/Engine Utilization Reports submitted by air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

Prior to 1987, the fleet size was the number of aircraft reported in operation by the carriers in December. Some of the carriers do not report each month. To adjust for this undercount, beginning in 1987, the fleet size is the monthly average of the number of aircraft reported in operation for the last quarter of the year. For example, if the carrier reported for two months, the fleet count is the average for the two months. If the carrier did not report any aircraft in the last quarter, there is no fleet data for that carrier.

TABLE 5.1
TOTAL AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS BY TYPE OF AIRCRAFT 1981–1990

Year	Total	Fixed-Wing					Total Rotary-Wing
		Total Fixed-Wing	Turbine			Piston	
			Total	Turbojet	Turboprop		
1981	3,973	3,969	3,363	2,511	852	603	4
1982	4,072	4,067	3,501	2,674	827	566	5
1983	4,203	4,194	3,643	2,767	876	551	9
1984	4,370	4,358	3,915	2,959	956	443	12
1985	4,678	4,673	4,240	3,164	1,076	433	5
1986	4,909	4,907	4,487	3,283	1,204	420	2
1987	5,253	5,240	4,819	3,575	1,244	421	13
1988	5,660	5,652	5,290	3,915	1,375	362	8
1989	5,778	5,771	5,418	3,942	1,476	353	7
1990	6,083	6,072	5,743	4,148	1,595	329	11

Note: Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year. Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

TABLE 5.2
AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1981–1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
TOTAL	**6,083**	**5,778**	**5,660**	**5,253**	**4,909**	**4,678**	**4,370**	**4,204**	**4,702**	**3,970**
Turbojet-4-engine—Total	**432**	**428**	**427**	**382**	**322**	**322**	**349**	**309**	**354**	**365**
Boeing B707	25	27	31	31	35	27	22	24	55	66
Boeing B720	—	—	—	—	—	—	—	1	1	2
Boeing B747	190	180	171	156	150	151	156	146	144	147
British Aerospace Aircraft Groupe BAE146	44	53	57	57	25	29	14	3	—	—
Convair CV22	—	—	—	—	—	—	—	2	2	2
Convair CV30	—	—	—	—	—	—	—	—	1	4
Douglas DC8	173	168	168	138	112	115	157	133	151	144
Turbojet-3-engine—Total	**1,438**	**1,459**	**1,542**	**1,469**	**1,466**	**1,488**	**1,438**	**1,393**	**1,387**	**1,363**
Boeing B727	1,152	1,167	1,246	1,168	1,172	1,195	1,161	1,122	1,110	1,096
Douglas DC10	185	185	184	185	180	179	174	155	166	161
Lockheed L1011	101	107	112	116	114	114	103	116	111	106
Turbojet-2-engine—Total	**2,278**	**2,055**	**1,946**	**1,724**	**1,495**	**1,354**	**1,172**	**1,065**	**933**	**783**
Airbus A300	67	63	57	52	52	46	38	34	30	25
Airbus A310	21	19	19	13	7	4	—	—	—	—
Airbus A320	10	11	—	—	—	—	—	—	—	—
Boeing B737	812	756	706	633	555	476	391	348	290	236
Boeing B757	199	146	122	95	73	48	19	15	2	—
Boeing B767	120	111	126	83	69	59	53	49	13	—
British Aircraft BAC111	3	—	30	39	45	32	33	36	36	27
Canadair CL600	—	—	—	—	—	—	—	—	1	—
Cessna C500/C501	—	—	—	—	—	2	1	1	2	1
Cessna C550	7	5	—	—	—	—	—	—	—	—
Dassault MD10	—	—	—	—	—	—	2	—	—	—
Dassault MD20	—	—	—	—	—	2	9	12	23	27
Douglas DC9	967	888	837	760	643	641	594	557	509	447
Fokker F28	68	53	47	47	50	41	23	6	11	9
Grumman G1159	1	—	—	—	—	—	1	2	3	5
Hamberger Flugzeugbam HFB320	—	—	—	—	—	—	1	1	—	—
Hawker-Siddeley HS125	—	—	—	—	—	—	—	—	2	—
Israel Aircraft 1124	—	—	—	—	—	—	—	—	1	—
Learjet LR23	—	—	—	—	—	—	—	—	3	—
Learjet LR24	—	—	—	—	—	—	—	—	1	3
Learjet LR25	1	2	1	—	—	—	—	—	—	1
Learjet LR35	2	1	1	2	1	3	8	4	3	—
Learjet LR55	—	—	—	—	—	—	—	—	1	—
Rockwell International NA265	—	—	—	—	—	—	—	—	1	—
Sud Aviation SE210	—	—	—	—	—	—	—	1	2	2
Sud Aviation SN601	—	—	—	—	—	—	—	—	—	2
Turboprop-4-engine—Total	**88**	**96**	**95**	**102**	**96**	**108**	**109**	**99**	**116**	**105**
Canadair CL44	5	5	6	6	2	6	5	2	4	4
DeHavilland DHC7	40	41	39	41	40	42	46	46	43	29
Lockheed L188	24	30	30	34	33	38	34	37	47	51
Lockheed L382	19	20	20	21	21	22	22	11	19	20
Vickers V745	—	—	—	—	—	—	2	3	3	1
Turboprop-2-engine—Total	**1,507**	**1,380**	**1,280**	**1,139**	**1,108**	**965**	**847**	**773**	**707**	**748**
Beech BE65	—	—	1	4	1	—	—	—	—	—
Beech BE90	—	—	1	4	—	3	2	2	4	2
Beech BE99	54	53	84	52	95	103	85	101	108	102
Beech BE100	2	1	1	—	1	1	2	1	—	—
Beech BE200	16	10	7	5	2	1	6	4	2	2
Beech BE1900	147	109	80	48	60	42	17	—	—	—
Beech STC18	—	—	—	—	—	—	1	1	1	—

TABLE 5.2
AIRCRAFT REPORTED IN OPERATION
BY AIR CARRIERS, BY MANUFACTURER AND MODEL
1981–1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
British Aerospace Aircraft Group Jetstream	222	165	135	113	69	46	10	10	12	12
Cessna C441	2	4	3	2	3	1	3	1	2	—
Construcciones Aeronautics C212	16	16	18	16	19	24	27	28	16	15
Convair CV580/640/600	33	58	72	77	91	100	107	100	98	251
DeHavilland DHC6	67	69	63	71	68	86	107	112	101	96
DeHavilland DHC8	74	64	44	34	26	10	—	—	—	—
Dornier DO228	32	34	33	18	12	6	—	—	—	—
Douglas DC3	—	—	—	—	—	1	—	—	—	—
Embraer EM110	48	59	77	97	91	79	81	83	83	66
Embraer EM120	156	105	62	36	16	—	—	—	—	—
Fairchild FH27	9	7	7	13	20	28	23	19	10	8
Fairchild FH227	3	4	11	8	7	8	9	9	9	6
Fokker F27	46	42	33	26	36	27	14	7	4	2
GAF Nomad N22	—	—	—	—	—	—	—	—	2	3
Grumman G73	7	5	7	—	—	—	—	—	—	—
Grumman G159	7	6	5	14	15	23	21	16	19	17
Grumman G500	—	—	1	—	—	—	—	—	—	—
Hawker-Siddeley HS748	—	—	—	—	—	—	2	5	5	2
Israel Aircraft AR101B	—	—	—	—	—	—	—	—	3	2
Mitsubishi MU2	1	—	—	1	6	3	1	2	—	—
Nihon YS11	21	21	22	36	36	42	30	35	27	27
Nord ND262	1	2	9	12	15	14	14	9	15	15
Piper 31T	8	12	9	6	5	4	8	6	1	1
Rockwell AC690	—	—	1	1	4	4	4	1	—	—
Saab-Fairchild SF340A	109	85	68	51	34	17	3	—	—	—
Short SC7	2	—	—	—	1	1	1	1	2	2
Short SD3	103	118	110	110	110	77	78	66	52	39
S.N.I.A.S. ATR42	77	62	35	20	8	—	—	—	—	—
Swearingen SA226	22	57	90	101	122	113	121	99	105	72
Swearingen SA227	218	212	191	163	135	101	70	55	26	4
Turboprop-1-engine—Total	—	—	—	3	—	—	—	—	—	—
Cessna C208	—	—	—	3	—	—	—	—	—	—
Piston-4-engine—Total	31	35	36	38	32	38	50	52	58	68
DeHavilland DH114	—	—	—	—	—	—	6	11	17	21
Douglas DC4	—	—	—	—	1	3	3	3	3	6
Douglas DC6	30	34	35	37	30	34	41	38	38	41
Douglas DC7	1	1	1	1	1	1	—	—	—	—
Piston-3-engine—Total	6	5	3	3	3	4	4	2	—	—
Britten Norman MK3	6	5	3	3	3	4	4	2	—	—
Piston-2-engine—Total	292	313	323	380	385	394	389	502	512	536
Aero Commander AC500	—	—	—	—	—	—	—	2	1	1
Aero Commander AC680	—	—	—	—	—	—	—	—	1	1
Beech BE18	3	5	6	5	9	7	15	20	14	20
Beech BE36	—	1	3	—	—	—	—	—	—	—
Beech BE55	—	—	—	2	1	—	—	1	2	2
Beech BE58	4	6	15	7	4	9	9	6	5	3
Beech BE65	2	2	2	2	3	—	—	3	2	4
Beech BE76	—	—	—	—	2	3	3	1	1	—
Beech BE80	—	—	—	—	—	4	8	—	—	—
Beech BE95	1	1	3	—	—	—	—	—	—	1
Beech BE99	—	—	—	—	—	—	—	1	—	—
Beech STC-18	—	—	—	—	—	—	—	—	—	—

TABLE 5.2
AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1981–1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Britten-Norman BN2A	15	16	30	29	29	7	27	29	33	35
Cessna C207T	—	—	—	—	—	—	—	1	1	—
Cessna C303T	—	—	1	1	1	1	—	—	—	—
Cessna C310	2	2	—	1	1	1	2	3	4	5
Cessna C320	—	—	—	—	—	—	1	—	—	—
Cessna C340	—	—	—	—	—	—	—	—	—	1
Cessna C401	1	1	4	—	—	—	—	—	2	—
Cessna C402	110	98	101	143	147	155	112	152	130	131
Cessna C404	1	1	4	4	6	5	4	8	22	17
Cessna C411	—	—	—	—	—	—	1	—	—	1
Cessna C414	1	—	—	—	2	1	1	1	—	3
Cessna C421	—	—	1	—	—	—	1	—	1	—
Convair CV240	11	9	9	10	9	12	15	10	11	12
Convair CV340/CV440	25	26	21	23	17	18	14	22	23	28
Curtiss-Wright C46	—	—	—	—	—	3	2	4	5	12
DeHavilland DHC104	—	—	—	—	—	—	—	—	—	2
Dornier DO28	—	—	—	—	—	—	—	—	—	2
Douglas DC3	15	19	20	38	43	39	30	42	50	56
Fairchild C82	—	—	—	—	—	—	—	2	1	2
Grumman G21	—	—	—	—	—	3	4	3	3	1
Grumman G44	—	—	1	1	1	1	1	1	1	1
Grumman G73	2	3	4	12	11	3	5	9	9	2
Grumman G111	—	—	—	2	3	6	—	4	2	—
Martin M404	—	2	2	1	—	—	1	13	11	11
Partenivia PT68	—	—	—	2	—	—	—	—	—	—
Piper PA23	9	9	9	11	9	3	10	16	18	19
Piper PA28	—	—	—	—	—	—	—	7	—	—
Piper PA30	—	—	—	—	—	—	1	2	2	2
Piper PA31	81	100	71	77	73	100	110	121	139	145
Piper PA32	2	2	2	2	—	—	—	—	—	—
Piper PA34	7	9	12	4	9	12	11	17	16	15
Piper PA44	—	—	1	1	1	1	1	1	1	1
Piper PA600	—	1	1	—	2	—	—	—	1	—
Piper PA1020T	—	—	—	—	2	—	—	—	—	—
Helicopte —Total	11	7	8	13	2	5	12	9	5	4

NOTE: Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year. Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

TABLE 5.3
TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1981–1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
TOTAL	**13,500,259**	**12,687,535**	**12,284,541**	**11,886,280**	**11,221,587**	**10,498,546**	**9,674,406**	**8,555,580**	**6,916,349**	**8,124,996**
Turbojet-4-engine—Total	**1,139,210**	**1,120,917**	**1,093,392**	**997,951**	**921,409**	**817,058**	**861,389**	**816,624**	**728,412**	**957,880**
Boeing B707	39,522	40,046	43,946	36,206	37,448	15,904	39,243	64,819	83,515	153,877
Boeing B720	—	—	—	—	—	—	136	438	317	438
Boeing B747	680,668	643,231	620,327	575,426	559,137	537,954	537,142	504,573	439,003	531,035
British Aerospace Aircraft Group BAE146	94,574	121,415	128,339	125,918	92,431	52,452	14,140	1,623	—	—
Convair CV22	—	—	—	—	—	—	—	—	656	543
Convair CV30	—	—	—	—	—	—	—	—	219	657
Douglas DC8	324,446	316,225	300,780	260,401	232,393	210,748	270,728	245,171	204,702	271,330
Turbojet-3-engine—Total	**3,459,434**	**3,533,071**	**3,705,084**	**3,865,525**	**3,960,406**	**3,843,357**	**3,786,832**	**3,278,501**	**2,971,583**	**3,531,243**
Boeing B727	2,528,818	2,606,796	2,780,240	2,930,107	3,036,233	2,989,848	2,990,821	2,529,074	2,289,310	2,769,906
Douglas DC10	587,954	589,989	583,558	566,751	580,200	529,073	487,831	423,824	377,811	442,698
Lockheed L1011	342,662	336,286	341,286	368,667	343,973	324,436	308,180	325,603	304,462	318,639
Turbojet-2-engine—Total	**5,999,153**	**5,295,578**	**4,951,466**	**4,575,179**	**4,057,267**	**3,568,486**	**2,872,265**	**2,494,072**	**1,751,513**	**1,817,081**
Airbus A300	177,996	158,716	150,603	156,947	150,898	131,904	101,143	84,674	56,390	61,783
Airbus A310	80,040	76,537	61,663	27,234	17,054	5,613	—	—	—	—
Airbus A320	27,290	8,523	—	—	—	—	—	—	—	—
Boeing B737	2,257,106	2,039,117	1,859,347	1,730,473	1,489,831	1,312,425	1,006,238	829,359	562,521	585,997
Boeing B757	549,289	359,955	321,369	270,729	195,957	108,320	50,022	17,090	—	—
Boeing B767	429,958	412,183	367,591	274,429	223,227	192,467	172,705	104,222	1,811	—
British Aircraft BAC111	630	27,611	65,095	84,642	68,908	73,873	59,555	79,011	54,306	58,560
Cessna C500/C501	—	—	—	54	50	546	657	652	423	1,767
Cessna C550	10,073	3,237	—	—	—	—	—	—	—	—
Dassault MD10	—	—	—	—	—	2,262	698	—	—	—
Dassault MD20	—	—	—	—	—	4,336	3,218	11,097	18,303	31,559
Douglas DC9	2,323,334	2,106,800	2,035,672	1,931,391	1,809,888	1,655,353	1,438,339	1,348,511	1,028,836	1,051,747
Fokker F28	145,547	101,421	88,682	97,727	98,918	73,494	33,036	13,224	23,996	17,123
Grumman G1159	60	—	47	—	—	334	660	309	1,308	2,392
Hamberger Flugzeugbam HFB320	—	—	—	—	—	—	102	734	—	—
Hawker-Siddeley HS125	—	—	—	—	—	—	—	—	304	—
Israel Aircraft 1121	—	—	—	—	—	—	—	8	—	—
Israel Aircraft 1124	—	—	—	—	—	—	—	—	208	88
Learjet LR23	—	—	—	—	—	—	1,227	785	1,228	1,658
Learjet LR24	—	—	—	—	—	—	537	436	476	1,160
Learjet LR25	384	482	44	—	—	—	—	—	26	1,007
Learjet LR35	1,446	996	1,353	1,553	2,536	7,559	5,892	3,148	688	697
Learjet LR55	—	—	—	—	—	—	—	—	253	—
Rockwell International NA265	—	—	—	—	—	—	—	49	20	46
Sud Aviation SE210	—	—	—	—	—	—	—	220	899	1,177
Sud Aviation SN601	—	—	—	—	—	—	—	—	—	1,434
Turboprop-4-engine—Total	**164,771**	**175,469**	**154,747**	**181,424**	**169,884**	**209,197**	**216,405**	**206,435**	**163,552**	**186,955**
Canadair CL44	5,896	6,527	8,427	9,355	8,687	9,147	7,567	6,066	5,303	4,617
DeHavilland DHC7	76,007	86,434	76,027	91,899	73,524	98,315	106,287	103,528	73,069	64,696
Lockheed L188	32,286	31,457	23,691	33,618	38,019	44,765	45,182	47,981	41,594	60,909
Lockheed L382	50,582	51,051	46,602	46,552	49,654	56,597	56,165	47,877	42,250	56,615
Vickers V745	—	—	—	—	—	373	1,204	983	912	116
Vickers V814	—	—	—	—	—	—	—	—	424	—
Turboprop-2-engine—Total	**2,456,790**	**2,335,386**	**2,118,066**	**1,943,532**	**1,720,179**	**1,616,425**	**1,487,032**	**1,288,616**	**935,588**	**1,127,794**
Beech BE65	—	—	—	596	639	—	—	—	—	—
Beech BE90	—	40	374	303	158	360	443	626	479	209

TABLE 5.3—Continued
TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1981–1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Beech BE99	—	86,255	125,247	141,691	175,543	199,736	199,205	183,534	137,968	164,467
Beech BE100	828	934	769	803	259	806	202	13	—	—
Beech BE200	31,140	15,134	9,679	3,625	970	3,541	2,522	1,868	1,813	960
Beech BE1900	238,129	196,469	153,473	135,960	107,128	73,211	23,289	—	—	—
Beech STC18	—	—	—	—	982	—	648	632	181	236
British Aerospace Aircraft Group Jet Stream	307,585	274,357	252,253	188,315	108,723	60,492	27,712	18,485	16,222	25,836
Cessna C441	2,782	3,713	4,948	3,874	1,364	1,745	1,672	1,265	501	291
Construcciones Aeronautics C212	22,574	21,710	23,610	21,643	19,891	24,886	34,252	33,902	21,870	109,613
Convair CV580/600/640	23,534	38,641	63,141	82,371	100,288	113,063	121,399	121,785	104,432	146,867
DeHavilland DHC6	103,670	107,403	113,810	122,783	113,958	162,340	176,233	169,980	139,042	170,458
DeHavilland DHC8	160,925	127,911	80,964	55,680	36,835	7,362	—	—	—	—
Dornier DO228	72,680	57,357	56,580	26,032	16,044	12,306	—	—	—	—
Douglas DC3	—	—	531	—	—	1,478	—	—	—	—
Embraer EM110	85,513	124,773	148,880	177,781	149,585	156,363	199,536	196,128	127,153	94,790
Embraer EM120	310,440	211,897	114,296	66,054	18,838	—	—	—	—	—
Fairchild FH27	4,605	4,709	9,821	13,502	31,232	36,440	35,521	24,777	12,438	6,132
Fairchild FH227	1,509	4,209	12,169	11,787	13,244	14,491	17,053	19,525	13,341	13,690
Fokker F27	65,309	60,371	50,645	59,910	61,144	40,521	25,056	13,151	6,047	3,675
GAF Nomad N22	—	—	—	—	—	—	—	69	3,628	10,432
Gruman G73	1,968	6,328	10,036	—	—	—	—	—	—	—
Grumman G159	9,348	9,669	7,139	15,177	23,328	23,911	20,773	18,339	8,532	14,843
Gruman G500	—	88	93	—	—	—	—	—	—	—
Hawker-Siddeley HS748	—	—	—	—	—	2,500	7,385	9,320	12,091	4,979
Israel Aircraft AR101B	—	—	—	—	—	—	—	587	2,284	139
Mitsubishi MU2	142	—	88	256	2,980	1,390	314	14	—	—
Nihon YS11	14,254	16,003	17,645	38,093	46,268	53,707	48,246	43,260	25,610	35,737
Nomad N24	—	—	1,907	—	—	—	—	—	—	—
Nord ND262	487	898	11,132	23,313	24,860	20,604	20,820	22,446	14,630	21,986
Piper 31T	9,024	11,410	8,232	5,656	4,865	7,003	10,103	2,692	—	70
Rockwell AC690	—	—	4	476	3,057	3,076	2,683	22	—	—
Saab-Fairchild SF340A	197,149	171,936	152,177	98,616	56,392	20,627	386	—	—	—
Short SC7	964	112	—	—	101	315	475	733	520	1,008
Short SD3	203,871	192,509	183,422	217,177	184,680	178,862	150,714	123,385	79,909	77,708
S.N.I.A.S. ATR42	142,741	120,074	60,029	27,943	5,923	—	—	—	—	—
Swearingen SA226	52,104	97,484	144,032	163,994	185,243	217,667	218,716	194,324	169,688	223,059
Swearingen SA227	389,737	372,992	300,940	240,121	225,657	177,622	141,674	87,754	37,209	609
Turboprop-1-engine—Total	**—**	**—**	**452**	**581**	--	**—**	**—**	**—**	**—**	**—**
Cessna C208	—	—	452	581	—	—	—	—	—	—
Piston-4-engine—Total	**22,919**	**24,538**	**25,083**	**24,367**	**24,909**	**30,854**	**29,215**	**33,616**	**35,782**	**64,951**
DeHavilland DH114	—	—	—	—	—	2,626	7,847	16,835	22,598	42,702
Douglas DC4	266	—	—	—	1,038	1,512	720	1,187	256	1,304
Douglas DC6	21,979	23,418	24,055	23,405	23,049	26,039	20,648	15,594	12,928	20,945
Douglas DC7	674	1,120	1,028	962	822	677	—	—	—	—
Piston-3-engine—Total	**4,664**	**3,229**	**2,831**	**2,477**	**1,716**	**5,470**	**2,983**	**1,191**	**—**	**—**
Britten Norman MK3	4,664	3,229	2,831	2,477	1,716	5,470	2,983	1,191	—	—
Piston-2-engine—Total	**245,258**	**194,619**	**229,150**	**291,397**	**360,832**	**402,377**	**410,287**	**427,488**	**324,539**	**437,955**
Aero Commander AC500	—	—	13	—	6	28	300	878	678	789
Aero Commander AC680	—	—	70	—	—	—	—	581	759	1,129
Beech BE18	1,219	1,157	466	578	345	3,015	9,723	10,721	5,928	8,160
Beech A36TC	—	1,083	1,040	659	—	—	—	—	—	—
Beech BE55	—	—	—	—	194	—	284	674	936	981
Beech BE58	1,823	2,285	2,498	2,165	1,727	4,262	2,637	1,430	1,558	1,476
Beech BE65	2,408	2,355	3,940	2,181	5,252	—	—	3,385	1,632	3,435
Beech BE76	—	—	—	28	142	525	586	306	78	—
Beech BE80	—	—	—	—	—	7,031	7,667	—	—	591

TABLE 5.3—Continued
TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1981-1990

Aircraft Make and Model	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Beech BE95	442	435	899	635	9	—	—	—	95	557
Beech BE99	51,481	—	—	—	—	—	—	3,719	—	—
Beech STC-18	—	—	—	—	—	—	—	—	—	—
Britten-Norman BN2A	11,379	15,033	18,129	19,729	26,166	22,774	28,306	31,204	32,003	39,315
Britten-Norman BN28	—	—	—	—	—	—	—	—	—	—
Cessna C207T	—	639	—	—	—	—	—	218	60	—
Cessna C210T	—	—	—	—	—	45	244	—	—	—
Cessna C303T	—	—	67	6	—	237	207	—	—	—
Cessna C310	1,135	573	—	440	490	372	956	1,059	2,573	4,227
Cessna C320	—	—	—	—	—	8	20	—	—	—
Cessan C337	—	—	—	—	—	—	—	—	—	—
Cessna C340	—	—	134	—	—	—	6	—	18	138
Cessna C401	1,032	1,632	375	—	—	—	—	788	513	1,234
Cessna C402	86,705	86,012	104,933	139,843	184,470	191,070	166,914	152,596	103,415	137,504
Cessna C404	468	837	2,321	4,022	4,959	4,562	6,730	9,694	14,184	22,977
Cessna C411	—	—	—	—	—	102	135	—	6	60
Cessna C414	50	—	11	189	1,279	523	522	2,267	15	645
Cessna C421	—	26	89	—	—	46	26	32	26	14
Convair CV240	2,950	3,045	3,694	2,967	3,106	6,284	7,861	6,609	7,399	8,299
Convair CV340/CV440	6,189	6,820	6,229	6,384	5,584	4,664	6,910	15,932	10,633	17,163
Curtiss-Wright C46	—	—	—	—	411	1,104	966	1,821	2,340	3,258
DeHavilland DHC104	—	—	—	—	—	—	—	—	489	2,014
Dornier DO28	—	—	—	—	—	—	—	—	—	199
Douglas DC3	5,279	7,389	14,680	21,485	25,971	25,916	23,498	21,836	19,649	25,861
Fairchild C82	—	—	—	—	—	6	708	1,252	1,485	2,198
Grumman G10	—	—	—	—	—	—	—	—	1,104	—
Grumman G21	—	—	—	—	787	1,861	1,927	1,453	920	1,309
Grumman G44	—	—	—	—	56	110	151	96	80	76
Grumman G73	93	1,191	1,887	11,178	10,411	7,979	7,669	7,692	5,004	7,221
Grumman G111	—	—	—	1,712	3,476	3,207	4,298	1,817	—	—
Martin M404	—	—	127	10	—	217	5,094	5,732	5,051	9,014
Partenivia PT68	—	—	13	1,362	—	—	—	—	—	—
Piper PA23	3,217	3,419	4,024	5,100	4,113	6,308	4,691	6,658	4,871	9,969
Piper PA28	131	451	—	—	—	—	—	42	33	—
Piper PA30	—	—	—	—	—	17	460	721	228	392
Piper PA31	66,000	56,781	61,016	67,554	72,782	102,855	114,330	128,305	95,310	118,451
Piper PA32	350	530	768	698	—	—	—	—	—	—
Piper PA34	2,865	2,895	1,266	981	7,352	7,255	6,660	7,298	5,022	8,853
Piper PA44	—	20	354	524	418	39	—	259	205	238
Piper PA600	43	11	106	409	321	—	—	169	239	108
Piper PA1020T	—	—	—	558	1,005	—	—	—	—	—
Helicopters—Total	**8,060**	**4,728**	**4,270**	**3,847**	**4,985**	**5,322**	**7,998**	**9,037**	**5,380**	**1,139**

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

TABLE 5.4
TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
TOTAL	**4,665**	**4,145**	**432**	**1,438**	**2,275**	**438**	**45**	**393**	**82**	**31**	**—**	**51**	**—**
ABX Air dba Airborne Express	57	45	16	—	29	12	—	12	—	—	—	—	—
Aerial Transit	5	—	—	—	—	—	—	—	5	5	—	—	—
Air Berlin	1	1	—	—	1	—	—	—	—	—	—	—	—
Air Transport Intn'l	5	5	5	—	—	—	—	—	—	—	—	—	—
Air Wisconsin dba United Express	31	10	10	—	—	21	—	21	—	—	—	—	—
Airlift Int'l	6	1	1	—	—	5	—	5	—	—	—	—	—
Alaska Airlines	59	59	—	27	32	—	—	—	—	—	—	—	—
Allegheny Commuter Airlines	11	—	—	—	—	11	—	11	—	—	—	—	—
Aloha Airlines	17	17	—	—	17	—	—	—	—	—	—	—	—
American Airlines	552	552	10	223	319	—	—	—	—	—	—	—	—
American Intn'l Airways dba Connie Kalitta Services	13	13	11	1	1	—	—	—	—	—	—	—	—
American Trans Air	23	23	—	19	4	—	—	—	—	—	—	—	—
American West Airlines	98	87	4	—	83	11	—	11	—	—	—	—	—
Amerijet Intn'l	7	7	—	7	—	—	—	—	—	—	—	—	—
Arrow Air	9	9	9	—	—	—	—	—	—	—	—	—	—
Aspen Airways dba United Express	4	2	2	—	—	2	—	2	—	—	—	—	—
Atlantic Southeast Airlines	2	—	—	—	—	2	2	—	—	—	—	—	—
Basler Flight Service	3	—	—	—	—	—	—	—	3	—	—	3	—
Britt Airways /Rocky Mountain dba Continental Express	44	—	—	—	—	44	5	39	—	—	—	—	—
Buffalo Airways	6	6	4	—	2	—	—	—	—	—	—	—	—
Business Air	3	—	—	—	—	—	—	—	3	—	—	3	—
Business Express	11	—	—	—	—	11	—	11	—	—	—	—	—
Carnival Air Lines	5	5	—	3	2	—	—	—	—	—	—	—	—
CCAir dba Piedont Commuter	15	—	—	—	—	15	—	15	—	—	—	—	—
Challenge Air Cargo	5	5	3	—	2	—	—	—	—	—	—	—	—
Chautauqua Airlines dba USAir Express	2	—	—	—	—	2	—	2	—	—	—	—	—
Condor Aviation	1	—	—	—	—	—	—	—	1	—	—	1	—
Conner Air Lines	3	1	1	—	—	—	—	—	2	2	—	—	—
Continental Airlines	341	341	9	120	212	—	—	—	—	—	—	—	—
Crown Airways dba USAir Express	2	—	—	—	—	2	—	2	—	—	—	—	—
Delta Air Lines	438	438	—	169	269	—	—	—	—	—	—	—	—
DHL Airways	14	14	—	14	—	—	—	—	—	—	—	—	—
Eastern Airlines	165	165	—	62	103	—	—	—	—	—	—	—	—
Emerald Airlines	5	5	—	1	4	—	—	—	—	—	—	—	—
Emery Worldwide Airlines	10	10	10	—	—	—	—	—	—	—	—	—	—
Empire Airlines	3	—	—	—	—	3	—	3	—	—	—	—	—
Enterprise Airlines	7	7	—	—	7	—	—	—	—	—	—	—	—
ERA Aviation dba ERA Helicopters	6	—	—	—	—	6	—	6	—	—	—	—	—
Evergreen Intn'l Airlines	18	18	10	4	4	—	—	—	—	—	—	—	—
Executive Airlines	7	—	—	—	—	7	—	7	—	—	—	—	—
Express One Intn'l	9	9	—	9	—	—	—	—	—	—	—	—	—
Fairways	2	1	—	—	1	1	—	1	—	—	—	—	—
Federal Express	171	171	22	149	—	—	—	—	—	—	—	—	—
Flamenco Airways	2	—	—	—	—	—	—	—	2	—	—	2	—
Flight Trails dba Air Resorts Airlines	10	—	—	—	—	3	—	3	7	—	—	7	—
Florida Airmotive	1	—	—	—	—	—	—	—	1	—	—	1	—
Florida West Airlines	7	7	7	—	—	—	—	—	—	—	—	—	—
Fresh Air Corp	2	—	—	—	—	2	—	2	—	—	—	—	—

TABLE 5.4—Continued
TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Frontier Flying Service	1	—	—	—	—	—	—	—	1	—	—	1	—
G E Governments Services	2	—	—	—	—	2	—	2	—	—	—	—	—
Great American Airways	1	1	—	—	1	—	—	—	—	—	—	—	—
Ground-Air Transfer dba Charter One	1	—	—	—	—	—	—	—	1	—	—	1	—
Hawaiian Airlines	35	27	8	6	13	8	8	—	—	—	—	—	—
Henson Airlines	38	—	—	—	—	38	5	33	—	—	—	—	—
Horizon Air	18	3	—	—	3	15	—	15	—	—	—	—	—
Jet Fleet	1	1	—	—	1	—	—	—	—	—	—	—	—
Key Airlines	10	10	—	10	—	—	—	—	—	—	—	—	—
Kitty Hawk Air Cargo	8	—	—	—	—	1	—	1	7	—	—	7	—
Laredo Air	2	—	—	—	—	—	—	—	2	—	—	2	—
Markair	11	6	—	—	6	5	2	3	—	—	—	—	—
Mesaba Airlines	15	—	—	—	—	15	—	15	—	—	—	—	—
Metro express dba Eastern Metro Express	8	—	—	—	—	8	—	8	—	—	—	—	—
MGM Grand Air	6	6	3	3	—	—	—	—	—	—	—	—	—
Mid Pacific Air	7	—	—	—	—	7	—	7	—	—	—	—	—
Midway Airlines	68	68	—	—	68	—	—	—	—	—	—	—	—
Midwest Express Airlines	13	13	—	—	13	—	—	—	—	—	—	—	—
Million Air	1	1	1	—	—	—	—	—	—	—	—	—	—
Mountain Air Cargo	12	—	—	—	—	12	—	12	—	—	—	—	—
North American Airlines	1	1	—	—	1	—	—	—	—	—	—	—	—
Northern Air Cargo	12	—	—	—	—	—	—	—	12	12	—	—	—
Northwest Airlines	332	332	50	91	191	—	—	—	—	—	—	—	—
Pan Am Express	23	—	—	—	—	23	12	11	—	—	—	—	—
Pan American World Airways	152	152	32	86	34	—	—	—	—	—	—	—	—
Paradise Island Airlines	3	—	—	—	—	3	3	—	—	—	—	—	—
Pennsylvania Commuter Airlines dba USAir Express	10	—	—	—	—	10	—	10	—	—	—	—	—
Private Jet Expeditions	1	1	—	1	—	—	—	—	—	—	—	—	—
Reeve Aleutian Airways	7	2	—	2	—	5	—	5	—	—	—	—	—
Renown Aviation	7	—	—	—	—	1	—	1	6	—	—	6	—
Rhoades Aviation	2	—	—	—	—	—	—	—	2	—	—	2	—
Rich Int'l	2	2	2	—	—	—	—	—	—	—	—	—	—
Rosenbalm Aviation	27	27	27	—	—	—	—	—	—	—	—	—	—
Ross Aviation	3	—	—	—	—	3	3	—	—	—	—	—	—
Ryan Int'l Airlines	38	38	—	30	8	—	—	—	—	—	—	—	—
Salair	7	—	—	—	—	—	—	—	7	—	—	7	—
Scenic Airlines	6	6	—	6	—	—	—	—	—	—	—	—	—
Sierra Pacific Airlines	6	2	—	—	2	4	—	4	—	—	—	—	—
Simmons Airlines	48	—	—	—	—	48	—	48	—	—	—	—	—
Skyfrighters	1	—	—	—	—	—	—	—	1	—	—	1	—
Southern Air Transport	30	14	14	—	—	16	—	16	—	—	—	—	—
Southwest Airlines	105	105	—	—	105	—	—	—	—	—	—	—	—
Tem Enterpirses dba Casino Express	1	1	—	—	1	—	—	—	—	—	—	—	—
Templehof Airways USA	1	—	—	—	—	1	—	1	—	—	—	—	—
The Pan Am Shuttle	5	5	—	5	—	—	—	—	—	—	—	—	—
Tower Air	4	4	4	—	—	—	—	—	—	—	—	—	—

TABLE 5.4—Continued
TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Trans Air Link	5	—	—	—	—	—	—	—	5	5	—	—	—
Trans Continental Airlines	12	5	5	—	—	—	—	—	7	4	—	3	—
Trans Florida Airlines	3	—	—	—	—	—	—	—	3	—	—	3	—
Trans States Airlines dba Trans World Express	7	—	—	—	—	7	—	7	—	—	—	—	—
Trans World Airlines	210	210	17	101	92	—	—	—	—	—	—	—	—
Trump Shuttle	21	21	—	21	—	—	—	—	—	—	—	—	—
Twin Town Leasing	1	—	—	—	—	—	—	—	1	—	—	1	—
United Air Lines	462	462	58	183	221	—	—	—	—	—	—	—	—
United Parcel Service	116	116	53	45	18	—	—	—	—	—	—	—	—
Universal Airlines	3	—	—	—	—	—	—	—	3	3	—	—	—
USAir	454	454	18	31	405	—	—	—	—	—	—	—	—
Viking Int'l Airlines	2	—	—	—	—	2	—	2	—	—	—	—	—
Westair Commuter Airlines dba United Express	9	6	6	—	—	3	—	3	—	—	—	—	—
Westates Airlines	4	—	—	—	—	4	—	4	—	—	—	—	—
World Airways	9	9	—	9	—	—	—	—	—	—	—	—	—
Wrangler Avaition	5	—	—	—	—	5	5	—	—	—	—	—	—
Zantop Int'l Airlines	32	—	—	—	—	32	—	32	—	—	—	—	—

TABLE 5.5
TOTAL SMALL AIRCRAFT REPOTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON—DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
TOTAL	**1,418**	**3**	—	—	**3**	**1,157**	—	**1,157**	**247**	—	**6**	**241**	**11**
40 Mile Air	2	—	—	—	—	—	—	—	2	—	—	2	—
Air Midwest	40	—	—	—	—	40	—	40	—	—	—	—	—
Air Cape dba Nantucket Airlines	5	—	—	—	—	—	—	—	5	—	—	5	—
Air Caribe Int'l	1	—	—	—	—	—	—	—	1	—	—	1	—
Air Nevada Airlines	7	—	—	—	—	—	—	—	7	—	—	7	—
Air Sunshine	5	—	—	—	—	—	—	—	5	—	—	5	—
Air Vegas	20	—	—	—	—	—	—	—	20	—	—	20	—
Airways Int'l	18	—	—	—	—	—	—	—	18	—	—	18	—
Allegheny Commuter Airlines	12	—	—	—	—	12	—	12	—	—	—	—	—
Aloha Islandair	8	—	—	—	—	8	—	8	—	—	—	—	—
Alpha Air	2	—	—	—	—	2	—	2	—	—	—	—	—
Alpine Air	6	—	—	—	—	—	—	—	6	—	—	6	—
Artic Circle Air Service	28	—	—	—	—	2	—	2	26	—	—	26	—
Atlantic Southeast Airlines	55	—	—	—	—	55	—	55	—	—	—	—	—
Aviation Associates dba Sunaire	12	—	—	—	—	12	—	12	—	—	—	—	—
Baker Aviation	3	—	—	—	—	—	—	—	3	—	—	3	—
Bar Harbor Airways	23	—	—	—	—	23	—	23	—	—	—	—	—
Bemidji Airlines	2	—	—	—	—	—	—	—	2	—	—	2	—
Bering Air	10	—	—	—	—	1	—	1	9	—	—	9	—
Big Sky Transportation	5	—	—	—	—	2	—	2	3	—	—	3	—
Britt Airways /Rocky Mountain dba Continental Express	58	—	—	—	—	58	—	58	—	—	—	—	—
Business Air	7	—	—	—	—	—	—	—	7	—	—	7	—
Business Express	24	—	—	—	—	24	—	24	—	—	—	—	—
Cape Smythe Air Service	9	—	—	—	—	3	—	3	6	—	—	6	—
CCair dba Piedmont Commuter	17	—	—	—	—	17	—	17	—	—	—	—	—
Champlain Enterprises dba Commutair	17	—	—	—	—	12	—	12	5	—	—	5	—
Chartair	3	—	—	—	—	—	—	—	3	—	—	3	—
Chautauqua Airlines dba USAir Express	13	—	—	—	—	13	—	13	—	—	—	—	—
Christman Trucking dba Christman Air Systems	4	—	—	—	—	4	—	4	—	—	—	—	—
Coastal Airlines dba National Air	1	—	—	—	—	1	—	1	—	—	—	—	—
Comair Airlines	67	—	—	—	—	67	—	67	—	—	—	—	—
Conquest Airlines	9	—	—	—	—	9	—	9	—	—	—	—	—
Corporate Aircraft Sevices	3	—	—	—	—	—	—	—	3	—	—	3	—
Crown Airways dba USAir Express	5	—	—	—	—	5	—	5	—	—	—	—	—
DHL Airways	12	1	—	—	1	10	—	10	—	—	—	—	1
Direct Air	3	—	—	—	—	2	—	2	1	—	—	1	—
East Hampton Aire	6	—	—	—	—	5	—	5	1	—	—	1	—
Empire Airlines	3	—	—	—	—	3	—	3	—	—	—	—	—
ERA Aviation dba ERA Helicopters	7	—	—	—	—	7	—	7	—	—	—	—	—
Evergreen Helicopters Int'l	2	—	—	—	—	—	—	—	—	—	—	—	2
Exec Express II	11	—	—	—	—	6	—	6	5	—	—	5	—
Executive Airlines	9	—	—	—	—	9	—	9	—	—	—	—	—
Express Air	4	—	—	—	—	—	—	—	4	—	—	4	—
Express Airlines I dba Northwest Airlink	45	—	—	—	—	45	—	45	—	—	—	—	—
Fairways	1	—	—	—	—	1	—	1	—	—	—	—	—
Far West Airlines	1	—	—	—	—	—	—	—	1	—	—	1	—
Flamenco Airways	9	—	—	—	—	—	—	—	9	—	1	8	—
Frontier Flying Service	8	—	—	—	—	3	—	3	5	—	—	5	—
GP Express	13	—	—	—	—	7	—	7	6	—	—	6	—
Grand Airways	11	—	—	—	—	3	—	3	8	—	—	8	—

TABLE 5.5—Continued
TOTAL SMALL AIRCRAFT REPOTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON—DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Grand Canyon Airlines	4	—	—	—	—	4	—	4	—	—	—	—	—
Great Lakes Aviation	14	—	—	—	—	14	—	14	—	—	—	—	—
Harbor Airlines	4	—	—	—	—	—	—	—	4	—	—	4	—
Helitrans Air Service	4	—	—	—	—	—	—	—	—	—	—	—	4
Horizon Air dba Manhattan Express Airlines	9	—	—	—	—	9	—	9	—	—	—	—	—
Horizon Air Industries dba Horizon Air	32	—	—	—	—	32	—	32	—	—	—	—	—
Jet Express dba Trans World Express	5	—	—	—	—	5	—	5	—	—	—	—	—
Jetstream Int'l Airlines	31	—	—	—	—	31	—	31	—	—	—	—	—
L A P S A, Inc	1	—	—	—	—	—	—	—	1	—	—	1	—
L'Express	9	—	—	—	—	9	—	9	—	—	—	—	—
Lake Union Air Service	1	—	—	—	—	1	—	1	—	—	—	—	—
Larry's Flying Service	7	—	—	—	—	—	—	—	7	—	—	7	—
Las Vegas Airlines	4	—	—	—	—	—	—	—	4	—	—	4	—
Mall Airways	1	—	—	—	—	1	—	1	—	—	—	—	—
Markair Express	5	—	—	—	—	5	—	5	—	—	—	—	—
Merlin Express	11	—	—	—	—	11	—	11	—	—	—	—	—
Mesa Airlines	40	—	—	—	—	40	—	40	—	—	—	—	—
Mesaba Airlines	18	—	—	—	—	18	—	18	—	—	—	—	—
Metro Air Northeast dba Trans World Express	9	—	—	—	—	9	—	9	—	—	—	—	—
Metro Air Northeast dba TW Express	11	—	—	—	—	11	—	11	—	—	—	—	—
Metro Express dba Eastern Metro Express	22	—	—	—	—	22	—	22	—	—	—	—	—
Metro Express II dba Starlight Express	6	—	—	—	—	6	—	6	—	—	—	—	—
Metroflight dba American Eagle	43	—	—	—	—	43	—	43	—	—	—	—	—
Midway Airlines 1987 dba Midway Commuter	25	—	—	—	—	25	—	25	—	—	—	—	—
Midwest Aviation Div. of Southwewst Airlines	6	—	—	—	—	—	—	—	6	—	—	6	—
Nashville Eagle dba American Eagle	60	—	—	—	—	60	—	60	—	—	—	—	—
New England Airlines	2	—	—	—	—	—	—	—	2	—	—	2	—
New York Helicopter	4	—	—	—	—	—	—	—	—	—	—	—	4
New York Helicopter	9	—	—	—	—	—	—	—	9	—	—	9	—
Northcoast Executive Airlines	5	—	—	—	—	5	—	5	—	—	—	—	—
Northwest Express Regional Airlines	12	—	—	—	—	11	—	11	1	—	—	1	—
NPA, Inc dba United Express	16	—	—	—	—	16	—	16	—	—	—	—	—
Olson Air Service	1	—	—	—	—	—	—	—	1	—	—	1	—
Pacific Air Express	5	—	—	—	—	1	—	1	4	—	2	2	—
Pan Am Express	9	—	—	—	—	9	—	9	—	—	—	—	—
Paradise Island Airlines	4	—	—	—	—	4	—	4	—	—	—	—	—
Pennsylvania Commuter Airlines dba USAir Express	13	—	—	—	—	13	—	13	—	—	—	—	—
Pensinsula Airways	6	—	—	—	—	6	—	6	—	—	—	—	—
Precision Valley Aviation dba Precision Airlines	14	—	—	—	—	14	—	14	—	—	—	—	—
R I C , Inc dba Skymaster Air Taxi	2	—	—	—	—	—	—	—	2	—	—	2	—
Ross Aviation	1	—	—	—	—	1	—	1	—	—	—	—	—
Ryan Air Service	4	—	—	—	—	—	—	—	4	—	—	4	—
Samoa Air	3	—	—	—	—	3	—	3	—	—	—	—	—
Scenic Airlines	16	—	—	—	—	16	—	16	—	—	—	—	—

TABLE 5.5—Continued
TOTAL SMALL AIRCRAFT REPOTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON—DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE
1990

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Skywest Airlines	47	—	—	—	—	47	—	47	—	—	—	—	—
Southcentral Air	11	—	—	—	—	7	—	7	4	—	—	4	—
Southern Jersey Airways dba Eastern Express	1	—	—	—	—	1	—	1	—	—	—	—	—
Stateswest Airlines	9	—	—	—	—	9	—	9	—	—	—	—	—
Summit Aviation	1	—	—	—	—	1	—	1	—	—	—	—	—
Templehof Airways USA	5	2	—	—	2	3	—	3	—	—	—	—	—
Temsco Helicopters dba Temsco Airlines	2	—	—	—	—	—	—	—	2	—	1	1	—
Texas National Airlines	1	—	—	—	—	1	—	1	—	—	—	—	—
Trans States Airlines dba Trans World Express	11	—	—	—	—	11	—	11	—	—	—	—	—
Twin Town Leasing	1	—	—	—	—	1	—	1	—	—	—	—	—
United Jet Center	1	—	—	—	—	1	—	1	—	—	—	—	—
Valley Air Services	3	—	—	—	—	—	—	—	3	—	—	3	—
Viesques Air Link	5	—	—	—	—	—	—	—	5	—	2	3	—
Virgin Air dba Air St Thomas	6	—	—	—	—	—	—	—	6	—	—	6	—
Virgin Island Seaplane Shuttle	7	—	—	—	—	5	—	5	2	—	—	2	—
Walkers Aviation	1	—	—	—	—	1	—	1	—	—	—	—	—
Warbelow Air Ventures	2	—	—	—	—	—	—	—	2	—	—	2	—
Westair Commuter Airlines dba United Express	102	—	—	—	—	102	—	102	—	—	—	—	—
Wilburs Flight Operations	4	—	—	—	—	1	—	1	3	—	—	3	—
Wings West dba American Eagle	39	—	—	—	—	39	—	39	—	—	—	—	—
WRA	1	—	—	—	—	1	—	1	—	—	—	—	—
Wright Air Service	4	—	—	—	—	—	—	—	4	—	—	4	—

VI. U.S. CERTIFICATED AIR CARRIERS—OPERATING DATA

The traffic and financial data contained in this chapter include data for all U.S. Certificated Air Carriers—those holding a certificate issued under Section 401 of the Federal Aviation Act of 1958; and the commuter air carriers—those holding a certificate under Section 298C of the Federal Aviation Act of 1958.

The data are classified in two broad operational categories: "domestic" and "international". Beginning January 1, 1981, "domestic" encompasses operations within and between the 50 states of the United States, the District of Columbia, the Commonwealth of Puerto Rico and the Virgin Islands. It also encompasses Canadian transborder operations and for certain carriers, Mexican transborder operations. All other categories are considered "international". For periods prior to January 1, 1981, the data are classified in this same manner, except statistics for Puerto Rico and Virgin Islands operations are included in the international category rather than the domestic.

The certificated carriers are also grouped into "large" and "small" according to the size aircraft that the carrier operates. A "large" carrier is one that operates aircraft designed to have a maximum passenger seating capacity of 60 seats or more or a maximum payload capacity of 18,000 pounds or more, or conducts international operations. A "small" certificated carrier operates aircraft of less than 60 seats or a payload capacity of less than 18,000. The commuter carriers are grouped with the small certificated carriers.

The large certificated air carriers, beginning in 1981, were grouped according to their total operating revenue as listed below:

Carrier Groups	Carriers with Annual Operating Revenues of:
Major	$1,000,000,000+
Nationals	$100,000,000 - $1,000,000,000
Large Regionals	$10,000,000 - $99,999,999
Medium Regionals	0 - $9,999,999

The tables in this chapter are divided into two groups: 6.1-6.15 cover the large carriers and 6.16-6.18 cover the small commuter and large certificated medium regional carriers. Please note that some large certificated medium regional carriers are included in both groups of tables. The information for the large air carriers was obtained from the following sources published by the Research & Special Programs Administration of the Department of Transportation.

Air Carrier Traffic Statistics compiled from RSPA Form 41 Schedules T-1(a), T-1(b) and T-1(c).

Air Carrier Financial Statistics compiled from RSPA Form 41 Schedules B-1 and P-1.

The information for the small certificated, commuter and large certificated medium regional carriers was obtained from:

Air Carrier Industry Scheduled Service Traffic Statistics: Medium Regional Section: compiled from RSPA Form 298C Schedules A-1 and T-1.

TABLE 6.1
LARGE CERTIFICATED AIR CARRIERS
1989 AND 1990

MAJORS

American West	Northwest
American	Pan Amercian
Continental	Piedmont
Delta	Southwest
Eastern	Trans World
Federal Express	United
Flying Tiger	US Air

NATIONALS

Air Wisconsin	Markair
Alaska	Midway
Aloha	Southern Air
American Trans Air	Tower
Braniff	Trump Shuttle
Evergreen	United Parcel Service
Hawaiian	Westair
Horizon Air	World

LARGE REGIONALS

Air America	Key
Amerijet	MGM Grand
Arrow	Midwest Express
Aspen	Northern Air
Challenge Air Cargo	Orion
Connie Kalitta	Presidential
Emerald	Reeve
Executive Airlines	Rich
Express One	Rosenbalm
Five Star	Skyworld
Florida Express	Sun Country
Florida West	Trans Continental
Gulf Air Transport	Zantop
International Air Service	

MEDIUM REGIONALS

Aerial	Jet Fleet
Aeron	Millon
Air Transport Int'l	North American
Buffalo	Pacific Interstate
Casino Express	Private Jet
Conner	TPI International
Discovery	Trans Air Link
Emery	Universal
Great American	Wrangler
Independent Air	

TABLE 6.2
TRAFFIC DATA, ALL SERVICES (SCHEDULED AND NONSCHEDULED) OF THE LARGE CERTIFICATED AIR CARRIERS
1989 AND 1990

Traffic Category	Total System [1]		Domestic Operations		International Operations	
	1989 [2]	1990 [3]	1989 [2]	1990 [3]	1989 [2]	1990 [3]
Revenue Passenger Miles Flown (000)	447,480,421	472,154,457	335,214,077	345,763,080	112,266,344	126,391,377
Available Seat Miles (000)	703,888,107	753,111,240	537,133,399	570,387,125	166,754,708	182,724,115
Revenue Passenger Enplanements (000)	463,523	474,809	421,305	428,823	42,218	45,986
Revenue Ton Miles Flown (000) [1]	61,095,371	63,710,362	42,476,058	43,708,756	18,619,610	20,001,849
Passenger	44,748,067	47,215,337	33,521,470	34,576,208	11,226,600	12,639,126
Freight	14,435,663	14,498,671	7,538,748	7,646,496	6,896,915	6,852,175
U.S. Mail	1,878,651	2,003,556	1,414,750	1,490,002	463,901	513,554
Foreign Mail	32,844	0	651	0	32,193	0
Revenue Aircraft Miles Flown (000)	13,507,773	14,168,661	3,748,139	3,963,952	693,887	760,777

[1] Details may not add to total due to rounding.
[2] Revised
[3] Preliminary

Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.3
REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN DOMESTIC ALL SERVICES OF THE LARGE CERTIFICATED AIR CARRIERS
1981–1990

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1981	5,099,380	2,442,294	6,080,401	402
1982	4,860,482	2,442,292	5,962,431	410
1983	4,920,125	2,552,942	6,174,957	413
1984	5,358,454	2,875,402	6,970,886	412
1985	5,760,232	3,046,440	7,457,030	409
1986	6,336,150	3,421,492	8,223,615	416
1987	6,511,609	3,652,542	8,823,269	414
1988	6,607,067	3,738,242	9,135,430	409
1989 [1]	6,528,085	3,748,139	9,222,252	406
1990 [2]	6,757,162	3,963,952	9,718,915	408

[1] Revised.
[2] Preliminary.

Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.4
REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN INTERNATIONAL ALL SERVICES OF THE LARGE CERTIFICATED AIR CARRIERS
1981–1990

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1981	229,661	356,270	729,827	488
1982	233,726	362,183	739,820	490
1983	243,029	362,994	740,896	490
1984	241,087	388,794	792,267	491
1985	244,888	415,355	846,197	491
1986	271,735	451,338	923,641	489
1987	311,411	529,786	82,189	490
1988	354,463	615,270	260,927	488
1989 [1]	391,786	693,887	1,426,410	486
1990 [2]	419,546	760,777	1,556,687	489

[1] Revised.
[2] Preliminary.

Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.5
TOTAL TON-MILES AVAILABLE IN ALL SERVICES OF THE LARGE CERTIFICATED AIR CARRIERS
1981-1990
(Thousands of Ton-Miles)

Year	Large Certificated Air Carriers		
	Total System [1]	Domestic Operations	International Operations
1981	64,244,767	48,669,968	15,574,092
1982	65,769,930	49,757,601	16,012,329
1983	68,778,295	52,724,653	15,920,720
1984	76,298,288	58,942,974	17,355,314
1985	80,565,182	61,337,807	19,227,375
1986	90,243,958	69,771,737	20,472,221
1987	99,152,795	75,741,397	23,411,398
1988	105,272,555	78,264,976	27,107,579
1989 [2]	109,397,126	78,955,003	30,442,123
1990 [3]	117,011,845	83,374,559	33,637,286

[1] Categories may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.6
REVENUE TON-MILES FLOWN IN ALL SERVICES BY LARGE CERTIFICATED AIR CARRIERS
1981-1990
(Thousands of Tons)

Year	Large Certificated Air Carriers		
	Total System [1]	Domestic Operations	International Operations
1981	33,923,495	24,801,224	9,122,094
1982	35,050,938	25,838,708	9,212,230
1983	38,011,227	28,271,465	9,624,208
1984	41,277,948	30,561,436	10,716,512
1985	44,154,779	32,939,216	11,215,563
1986	48,883,854	37,148,059	11,735,795
1987	54,917,632	40,509,782	14,407,850
1988	58,397,186	41,598,662	16,798,524
1989 [2]	61,095,371	42,475,761	18,619,610
1990 [3]	63,710,362	43,705,513	20,004,849

[1] Categories may not add to total due to rounding.
[2] Revised.
[3] Preliminary.
Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.7
PASSENGER OPERATIONS IN SCHEDULED DOMESTIC OPERATIONS OF THE LARGE CERTIFICATED AIR CARRIERS 1981-1990

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor [1] Percent	Average On-line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1981	265,304	198,714,755	346,171,952	57.4	749	12.74
1982	274,342	210,149,315	359,527,716	58.5	766	12.21
1983	296,721	226,908,925	379,150,158	59.8	765	12.13
1984	321,047	243,692,254	422,506,609	57.7	759	12.79
1985	357,109	270,584,011	445,825,864	60.7	758	12.32
1986	393,864	302,089,903	497,990,815	60.7	767	11.18
1987	416,831	324,637,336	526,958,361	61.6	779	11.42
1988	419,210	329,309,489	536,662,591	61.4	786	12.31
1989 [2]	416,331	329,975,206	530,079,041	62.3	792	13.08
1990 [3]	423,711	340,219,421	563,043,643	60.4	803	13.43

[1] Percent revenue passenger-miles of available seat-miles.
[2] Revised.
[3] Preliminary.

Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.8
PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL OPERATIONS OF THE LARGE CERTIFICATED AIR CARRIERS 1981-1990

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor [1] Percent	Average On-line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1981	20,672	50,173,046	78,725,278	63.7	2,427	9.46
1982	19,760	49,494,555	80,591,490	61.4	2,505	9.57
1983	21,917	54,920,223	85,387,821	64.3	2,506	10.21
1984	23,636	61,423,601	92,816,730	66.2	2,599	9.38
1985	24,913	65,819,010	101,962,568	64.6	2,642	9.80
1986	25,082	64,455,952	109,445,032	58.9	2,570	10.16
1987	30,847	79,834,148	121,762,577	65.6	2,588	9.82
1988	35,404	93,992,070	140,139,737	67.1	2,655	10.40
1989 [2]	37,361	102,739,103	154,296,835	66.6	2,750	10.36
1990 [3]	41,846	117,695,799	170,309,966	69.1	2,813	10.82

[1] Percent revenue passenger-miles of available seat-miles.
[2] Revised.
[3] Preliminary.
Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.9
REVENUE AIRCRAFT-MILES FLOWN IN ALL SERVICES OF LARGE CERTIFICATED AIR CARRIERS
1981-1990
(Thousands of Miles)

Year	Total [1]	Domestic Operations	International Operations
1980	2,924,234	2,523,375	400,791
1981	2,703,219	2,442,294	356,270
1982	2,804,475	2,442,292	362,183
1983	2,922,583	2,552,942	362,994
1984	3,264,196	2,875,402	388,794
1985	3,461,795	3,046,440	415,355
1986	3,872,830	3,421,492	451,338
1987	4,182,327	3,652,542	529,786
1988	4,353,512	3,738,242	615,270
1989 [2]	4,442,026	3,748,139	693,887
1990 [3]	4,724,729	3,963,952	760,777

[1] Details may not add to total due to rounding.
[2]Revised.
[3]Preliminary.
Source: Air Carrier Traffic Statistics - RSPA

TABLE 6.10
OPERATING REVENUE OF DOMESTIC OPERATIONS, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS
1981–1990
(Thousands of Dollars)

Year	Total Operating Revenues [1]		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1981	28,787,566	100.0	25,504,233	88.6	590,746	2.1	1,659,182	5.8	36,101	0.1	997,305	3.4
1982	28,727,699	100.0	25,439,640	88.6	571,822	2.0	1,505,035	5.2	42,045	0.1	1,169,148	4.1
1983	31,014,393	100.0	27,519,079	88.7	537,234	1.7	1,601,895	5.2	51,967	0.2	1,304,221	4.2
1984	35,393,945	100.0	31,436,951	88.8	559,138	1.6	1,715,979	4.8	70,032	0.2	1,611,842	4.6
1985	37,628,540	100.0	33,343,005	88.6	740,384	1.9	1,580,914	4.2	78,113	0.2	1,886,123	5.0
1986	41,000,506	100.0	33,813,923	82.5	682,643	1.7	4,278,008	10.4	85,438	0.2	2,140,496	5.2
1987	45,657,800	100.0	37,492,065	82.2	706,178	1.5	4,951,924	10.9	66,756	0.1	2,440,877	5.3
1988	50,187,181	100.0	41,001,573	81.7	791,929	1.6	5,807,058	11.6	71,781	0.1	2,514,841	5.0
1989 [2]	54,314,210	100.0	43,670,025	80.4	770,333	1.4	5,408,336	10.0	69,761	0.1	4,395,754	8.1
1990 [3]	57,991,196	100.0	46,283,149	79.8	749,771	1.3	4,284,285	7.4	76,211	0.1	6,597,781	11.4

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Note: 1981 includes financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: Air Carrier Financial Statistics, Table 1 -- RSPA

TABLE 6.11
OPERATING EXPENSES OF DOMESTIC OPERATIONS, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS
1981–1990
(Thousands of Dollars)

Year	Total Operating Expenses [1]		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
			Flight Operations		Maintenance		Depreciation and Amortization				
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
1981	29,051,130	100.0	12,036,704	41.4	2,821,933	9.7	1,723,406	5.9	12,469,087	42.9	-263,564
1982	29,478,115	100.0	11,529,364	39.1	2,709,440	9.2	1,876,106	6.4	13,363,206	45.3	-750,416
1983	31,185,661	100.0	11,370,479	36.5	2,877,991	9.2	2,107,283	6.8	14,829,909	47.6	-171,268
1984	33,811,742	100.0	12,160,526	36.0	3,175,865	9.4	2,223,275	6.6	16,252,075	48.1	1,582,203
1985	36,610,744	100.0	12,684,018	34.7	3,604,447	9.8	2,318,066	6.3	18,004,213	49.2	1,017,796
1986	39,934,036	100.0	11,368,346	28.5	4,475,473	11.2	2,652,497	6.6	21,437,719	53.7	1,066,470
1987	43,925,149	100.0	12,508,716	28.5	4,950,558	11.3	2,854,806	6.5	23,611,068	53.7	1,732,650
1988	47,738,808	100.0	13,175,525	27.6	5,642,790	11.8	2,977,236	6.2	25,943,257	54.4	2,448,873
1989 [2]	52,459,535	100.0	14,749,292	28.1	6,184,193	11.8	3,077,602	5.9	28,448,448	54.2	1,854,675
1990 [3]	59,003,622	100.0	18,182,799	30.9	6,924,112	11.7	3,267,148	5.5	30,629,564	51.9	-1,012,426

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary

Note: 1981 include sfinancial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: Air Carrier Financial Statistics, Table 1 -- RSPA

TABLE 6.12
OPERATING REVENUE OF INTERNATIONAL OPERATIONS, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS
1981–1990
(Thousands of Dollars)

Year	Total Operating Revenues [1]		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1981	6,390,140	100.0	4,916,469	77.0	165,467	2.6	984,474	15.4	24,654	0.4	299,075	4.7
1982	6,434,904	100.0	4,959,347	77.1	176,930	2.8	989,620	15.4	25,358	0.4	283,448	4.4
1983	7,163,275	100.0	5,604,902	78.2	152,455	2.1	999,405	14.0	23,012	0.3	383,502	5.4
1984	7,974,706	100.0	6,074,406	76.2	157,703	2.0	1,169,259	14.8	27,447	0.3	545,892	6.8
1985	8,302,279	100.0	6,451,324	77.7	160,543	1.9	1,130,050	13.6	27,832	0.3	531,528	6.4
1986	8,621,149	100.0	6,550,550	76.0	153,627	1.8	1,451,488	16.8	28,254	0.3	437,231	5.1
1987	10,924,837	100.0	8,374,295	76.7	180,052	1.6	1,782,832	16.3	32,688	0.3	554,971	5.1
1988	13,401,710	100.0	10,356,637	77.3	183,251	1.4	2,150,132	16.0	39,285	0.3	672,405	5.0
1989 [2]	14,910,912	100.0	11,181,198	75.0	188,284	1.3	2,416,980	16.2	46,759	0.3	1,077,692	7.3
1990 [3]	17,976,111	100.0	13,451,561	74.8	223,432	1.3	2,606,075	14.5	43,130	0.2	1,651,913	9.2

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Note: 1981 includes financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: Air Carrier Financial Statistics, Table 1 -- RSPA

TABLE 6.13
OPERATING EXPENSES OF INTERNATIONAL OPERATIONS, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS
1981–1990
(Thousands of Dollars)

Year	Total Operating Expenses[1]		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
			Flight Operations		Maintenance		Depreciation and Amortization				
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
1981	6,574,441	100.0	2,756,877	42.0	539,605	8.2	382,367	5.9	2,895,591	44.0	-184,300
1982	6,451,807	100.0	2,596,134	40.2	511,795	7.9	396,159	6.1	2,947,719	45.7	-17,103
1983	6,692,776	100.0	2,490,076	37.2	547,741	8.2	388,708	5.8	3,266,252	48.8	470,499
1984	7,484,679	100.0	2,628,664	35.1	676,950	9.0	445,857	6.0	3,733,208	49.9	490,028
1985	7,983,705	100.0	2,738,439	34.4	768,018	9.6	481,560	6.0	3,995,687	50.0	318,574
1986	8,458,084	100.0	2,401,911	28.4	900,784	10.7	517,524	6.1	4,637,866	54.8	163,066
1987	10,226,388	100.0	2,836,095	27.7	1,095,635	10.7	533,079	5.2	5,761,579	56.4	698,450
1988	12,403,323	100.0	3,230,335	26.1	1,331,687	10.7	617,734	5.0	7,223,567	58.2	998,388
1989 [2]	14,953,533	100.0	3,918,537	26.2	1,723,953	11.5	746,047	5.0	8,564,996	57.3	-42,620
1990 [3]	18,877,838	100.0	5,425,542	28.7	2,049,531	10.9	889,840	4.7	10,512,925	55.7	-901,726

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Note: 1980-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.15.

Source: Air Carrier Financial Statistics, Table 1 -- RSPA

TABLE 6.14
OPERATING REVENUE, SYSTEM, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MEDIUM REGIONAL GROUP
1982–1990
(Thousands of Dollars)

Year	Total Operating Revenues [1]		Scheduled Passenger		Scheduled Other		Non Scheduled Service		Subsidy		Other Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	448,159	100.0	154,261	34.5	39,690	8.9	207,558	46.3	6,030	1.3	40,259	9.0
1983	108,082	100.0	19,126	17.7	9,897	9.2	73,469	68.0	2,132	2.0	3,457	3.2
1984	159,837	100.0	61,966	38.8	7,063	4.4	83,249	52.1	1,561	1.0	5,998	3.7
1985	150,754	100.0	38,045	25.2	19,467	12.9	89,863	59.6	0	0.0	3,379	2.2
1986	81,971	100.0	10,576	12.9	43	0.0	61,729	75.4	0	0.0	9,624	11.7
1987	114,593	100.0	6,845	6.0	4,521	3.9	85,406	74.5	0	0.0	17,821	15.6
1988	70,035	100.0	0	0.0	716	1.1	65,850	94.0	0	0.0	3,470	5.0
1989 [2]	90,733	100.0	5,773	6.4	7,494	8.3	64,392	70.9	31	0.0	13,042	14.4
1990 [3]	157,344	100.0	22,925	14.6	21,290	13.5	110,820	70.4	0	0.0	2,308	1.5

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Source: Air Carrier Financial Statistics, Table 3 -- RSPA

Note: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see Air Carrier Financial Statistics for year in question.

TABLE 6.15
OPERATING EXPENSES, SYSTEM, ALL SERVICES
LARGE CERTIFICATED AIR CARRIERS
MEDIUM REGIONAL GROUP
1982–1990
(Thousands of Dollars)

Year	Total Operating Expenses [1]		Flying Operations		Maintenance		General and Administrative		Depreciation and Amoritization		Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	467,998	100.0	242,231	51.8	52,816	11.2	122,861	26.3	19,791	4.2	30,299	6.5
1983	111,713	100.0	68,130	61.0	17,693	15.8	18,327	16.4	7,353	6.6	210	0.2
1984	159,680	100.0	89,995	56.4	21,572	13.5	37,866	23.7	9,885	6.2	361	0.2
1985	151,527	100.0	79,920	52.8	22,585	14.9	42,703	28.2	5,179	3.4	1,140	0.7
1986	87,359	100.0	45,435	52.0	14,515	16.6	17,436	20.0	2,616	3.0	7,356	8.4
1987	120,019	100.0	56,061	46.7	25,533	21.3	27,351	22.8	6,269	5.2	4,803	4.0
1988	76,823	100.0	32,629	42.5	18,191	23.7	18,779	24.4	5,731	7.5	1,494	1.9
1989 [2]	91,518	100.0	43,560	47.6	15,469	16.9	21,400	23.4	1,214	1.3	9,876	10.8
1990 [3]	156,384	100.0	95,039	60.8	31,568	20.2	24,720	15.8	4,982	3.2	75	0.0

[1] Details may not add to total due to rounding.
[2] Revised.
[3] Preliminary.

Source: Air Carrier Financial Statistics, Table 3 -- RSPA

Note: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see Air Carrier Financial Statistics for year in question.

TABLE 6.16
SMALL CERTIFICATED AND COMMUTER AIR CARRIERS
1989 and 1990

40-Mile Air
Action Airlines
Aerial Transit Company [1]
Aero Coach
Air Cape
Air Caribe Int'l
Air Kentucky Air Lines
Air L. A.
Air Midwest
Air Molakai
Air Nevada Airlines
Air Resorts
Air Sedona
Air Sunshine
Air Transport Int'l
Air Vegas
Airways Int'l
Alaska Island Air
Aleutian Air
Alliance Airlines
Aloha Island Air
Alpha Air
Alpine Air
Atlantic Southeast Airlines
Atlantis Airlines
Aviation Associates
Baker Aviation
Bar Harbor Airways
Barrow Air
Bas Aviation
Bellair
Bemidji Airlines
Bering Air
Big Island Air
Big Sky Airlines
Britt Airways
Business Express Airlines
California Air Shuttle
Cape Air
Cape Smythe Air Service
Catskill Airways
CCair
Central States
Chalks Int'l Airlines
Channel Flying
Chaparral Airlines
Chartair
Charter One
Chautauqua Airlines
Chitina Air Service
Christman Air System
Coastal Air Transport
Comair
Command Airways
Commutair
Conner Air lines [1]
Conquest Airlines
Crown Airways
Cumberland Airlines
Direct Air
East Hampton Aire
Empire Airways
Enterprise Airlines
ERA Aviation
Exec Express II
Express Airlines I
Flamenco Airwaysa
Freedom Air
Frontier Flying Service
Galena Air Service
GCS Air Service
GP Express
Grand Airways
Grand Canyon Helicopters
Great Lakes Aviation
Gulf Air Taxi
Gulfstream Int'l
Haines Airways
Harbor Air Service
Harbor Airlines
Helitrans
Henson Aviation
Hermens Air
Holiday Airlines
Hub Express
Iliamna Air Taxi
Inlet Airlines
Iowa Airways
Jet Express
Jetstream Int'l Airlines
Kenmore Air Harbor
Ketchikan Air Service
L.A.B. Flying Service
Lake Union Air Services
Lapsa
Laredo Air
Larry's Flying Service
Las Vegas Air Lines
L'Express
Long Island Airlines
Mall Airways
Mesa Airlines
Mesaba Aviation
Metro Air Northeast NY
Metro Air Northeast Vermont
Metro Express
Metroflight Airlines
Michigan Airways
Midcontinent Airlines
Midway Commuter
Midwest Aviation
Mohawk Airlines
MST Aviation
Nashville Eagle
New England Airlines
New York Helicopter
Northcoast executive
NPA
Olson Air Service
Pacair
Pacific Coast
Pacific Interstate [1]
Pan Am Express
Panama Aviation
Panorama Air Toursa
Peninsula Airways
Pennsylvania Airlines
Pocono Airlines
Precision Valley Aviation
Prime Air
Propheter Aviation
Resort Commuter
Rocky Mountain Airways
Ross Aviation
Ryan Air Services
San Juan Airlines
Scenic Airlines
Seagull Air Service
SFO Helicopter Airlines
Simmons Airlines
Skagway Air Service
Sky West Aviation
Skymaster
Southern Airways
Southern Jersey Airways
Sportsman Flying Service
Springdale Air
Stateswest Airlines
Suburban Airlines
Tanana Air Service
Taquan Air Service
Tatonduk Flying Service
Temsco Airlines
Trans States Airlines
Tri Air Freight
Trump Air
Valley Air Service
Valley Airlines
Vieques Air Link,Inc.
Village Aviation
Virgin Air
Virgin Islands Seaplane
Walker's International
Warbelow's Air Ventures
West Isle Air
Westates
Wilbur's
Wings Airways
Wings of Alaska
Wings West
WRA
Wrangell Air Service
Wright Air Service
Yutana Airlines
Yute Air Alaska

[1] Large certificated medium regional air carrier.

TABLE 6.17
SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED MEDIUM REGIONAL AIR CARRIERS TRAFFIC DATA
SCHEDULED SERVICES ONLY
1981–1990

Category	1981	1982	1983	1984	1985	1986	1987	1988	1989 [1]	1990 [2]
Revenue Passenger Miles (000)	2,160,350	2,905,243	2,228,453	4,601,837	3,031,817	3,352,187	3,986,637	4,582,522	5,052,222	6,100,927
Revenue Enplanements (000)	15,642	17,444	15,941	20,230	18,853	20,849	24,839	27,801	29,612	34,039
Passenger Ton Miles (000)	210,026	286,608	222,189	460,135	302,783	335,264	396,887	456,894	456,794	608,763
Cargo Ton Miles (000)	32,812	30,911	7,752	18,291	67,400	49,927	54,659	6,333	43,031	128,383
Aircraft Revenue Miles (000)	254,682	264,176	242,120	304,217	323,945	347,181	395,998	437,818	546,652	618,824
Aircraft Revenue Hours	1,558,025	1,504,406	1,464,879	1,759,848	1,832,623	1,940,095	2,193,230	2,389,988	2,589,223	3,041,440
Aircraft Departures	2,341,469	2,353,081	2,287,504	2,706,142	2,755,616	2,866,653	3,132,899	3,323,772	3,284,610	3,637,205

[1] Preliminary
[2] Revised

Source: Air Carrier Industry Scheduled Traffic Statistics, RSPA

TABLE 6.18
SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED MEDIUM REGIONAL AIR CARRIERS TRAFFIC AVERAGES
SCHEDULED SERVICES ONLY
1981–1990

Category	1981	1982	1983	1984	1985	1986	1987	1988	1989 [1]	1990 [2]
Passengers Per Aircraft Mile	8.5	11	9.2	15.1	9.4	9.7	10.1	10.5	9.2	9.9
Available Seats Per Aircraft Mile	18.2	23.7	20.7	30	21.3	21.5	21.8	22.6	19.5	21.3
Revenue Tons Per Aircraft Mile	1.0	1.2	1.0	1.6	1.1	1.1	1.1	1.1	1.0	1.2
Available Tons Per Aircraft Mile	2.1	2.8	2.3	3.3	2.7	2.5	2.7	2.4	2.2	2.0
Flight Stage Length (Miles)	108.8	112.3	105.8	112.3	117.6	128.7	126.4	131.7	165.5	170.1

[1] Preliminary
[2] Revised

Source: Air Carrier Industry Scheduled Traffic Statistics, RSPA

VII. U.S. CIVIL AIRMEN

Statistics pertaining to airmen, both pilot and nonpilot, were obtained from the official airmen certification records maintained by the Airmen Certification and Medical Certification Branches of the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

Active pilots are those pilots who hold a pilot certificate and a valid medical certificate—one that was issued within the last 25 months. Glider and Lighter-than-air pilots may have, but are not required to have, a medical examination. The inventory data for these categories include only those with a valid medical certificate.

For those nonpilot certificates for which a medical certificate is not required (mechanics, parachute riggers, ground instructors, and dispatchers), the numbers shown include all who have been issued that airman certificate.

TABLE 7.1
ESTIMATED ACTIVE PILOT CERTIFICATES HELD: DECEMBER 31, 1981–1990

Category	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Pilot—Total	**764,182**	**733,255**	**718,004**	**722,376**	**709,540**	**709,118**	**699,653**	**694,016**	**700,010**	**702,659**
Student	179,912	156,361	147,197	150,081	146,652	150,273	146,016	136,913	142,544	128,663
Private	328,562	322,094	318,643	320,086	311,086	305,736	300,949	299,786	293,179	299,111
Commercial	168,580	165,093	159,495	155,929	151,632	147,798	143,645	143,030	144,540	149,666
Airline Transport	70,311	73,471	75,938	79,19[illegible]	82,740	87,186	91,287	96,968	102,087	107,732
Helicopter (only)	6,453	7,034	7,237	7,532	8,123	8,581	8,702	8,608	8,863	9,567
Glider (only) [1]	7,388	7,842	8,157	8,390	8,168	8,411	7,901	7,600	7,708	7,833
Lighter-than-air [1]	2,976	1,360	1,337	1,166	1,139	1,133	1,153	1,111	1,089	[2]
Recreational	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87
Nonpilot—Total [4]	**382,840**	**399,661**	**413,199**	**426,802**	**395,139**	**410,079**	**427,962**	**448,710**	**468,405**	**492,237**
Mechanic [3]	262,705	277,436	288,335	298,028	274,100	284,241	297,178	312,419	326,243	344,282
Parachute Rigger [2]	9,716	9,893	10,074	10,194	9,395	9,535	9,659	9,770	9,879	10,094
Ground Instructor [2]	63,246	65,004	66,385	67,463	58,214	59,443	60,861	62,582	64,503	66,882
Dispatcher [3]	7,094	7,580	8,223	8,980	8,511	9,025	9,491	10,020	10,455	11,002
Flight Navigator	1,785	1,695	1,636	1,603	1,542	1,512	1,445	1,400	1,357	1,290
Flight Engineer	38,294	38,053	38,546	40,534	43,377	46,323	49,328	52,519	55,968	58,687
Flight Instructor Certificates [4]	**57,523**	**62,492**	**62,201**	**61,173**	**58,940**	**57,355**	**60,316**	**61,798**	**61,472**	**63,775**
Instrument Ratings [5]	**252,535**	**255,073**	**254,271**	**256,584**	**258,559**	**262,388**	**266,122**	**273,804**	**282,804**	**297,073**

[1] Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.
[2] Lighter-than-air type ratings are no longer being issued.
[3] Numbers represent all certificates on record. No medical examination required.
[4] Not included in total.
Special ratings shown on pilot certificates, do not indicate additional certificates.
[5] Revised 1981-1988.
N/A Not Available.

TABLE 7.2
ESTIMATED ACTIVE WOMEN PILOT CERTIFICATES HELD: DECEMBER 31, 1981–1990

Category of Certificates Held	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Pilot—Total	**47,721**	**45,305**	**43,648**	**44,339**	**43,483**	**43,082**	**42,578**	**42,299**	**42,366**	**40,515**
Student	22,591	19,958	18,696	19,435	19,058	18,899	18,367	17,529	17,637	15,007
Private	19,602	19,388	18,801	18,616	17,974	17,532	17,349	17,544	16,988	17,301
Commercial	4,101	4,257	4,281	4,232	4,185	4,176	4,208	4,410	4,760	5,210
Airline Transport	584	749	884	1,032	1,184	1,334	1,538	1,745	1,898	2,082
Helicopter (only)	87	113	144	167	196	232	247	259	273	292
Glider (only) [1]	540	574	599	631	653	667	627	590	586	617
Lighter-than-air [1]	216	266	243	226	233	242	242	222	224	
Recreational	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6
Nonpilot—Total [4]	**5,201**	**5,697**	**6,151**	**6,591**	**6,017**	**6,502**	**7,101**	**7,842**	**10,683**	**9,557**
Mechanic [3]	1,051	1,298	1,493	1,649	1,775	1,964	2,237	2,565	2,892	3,333
Parachute Rigger [3]	580	593	605	614	412	414	428	441	451	474
Ground Instructor [3]	3,213	3,391	3,554	3,680	2,980	3,087	3,232	3,391	3,554	3,760
Dispatcher [3]	167	199	249	310	394	460	524	622	711	802
Flight Navigator	1	1	2	2	1	0	0	1	1	0
Flight Engineer	189	215	248	336	455	577	680	822	3,074	1,188
Flight Instructor Certificates [4]	**2,165**	**2,532**	**2,685**	**2,736**	**2,731**	**2,687**	**2,909**	**3,018**	**3,074**	**3,239**

[1] Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.
[2] Lighter-than-air type rating is no longer being issued.
[3] Numbers represent all certificates on record. No medical examination required.
Not included in total.
[4] Revised.
N/A Not Available.

TABLE 7.3
ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD, BY CLASS OF CERTIFICATES AND BY FAA REGION: DECEMBER 31, 1990

Class of Certificate	Total [1]	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	Southern	South-west	Western Pacific	Outside U.S. [2]
Total—All Pilots	**702,659**	**9,715**	**34,820**	**90,920**	**115,339**	**33,135**	**65,611**	**122,546**	**81,393**	**121,817**	**27,363**
Student Pilots—Total	**128,663**	**1,407**	**5,916**	**18,913**	**22,317**	**6,659**	**11,028**	**22,455**	**13,588**	**21,384**	**4,996**
Private Pilots—Total	**299,111**	**4,602**	**17,555**	**37,865**	**55,648**	**14,742**	**28,704**	**47,484**	**33,559**	**53,821**	**5,131**
Private Airplane (only)	288,035	4,458	17,096	36,229	54,238	14,234	27,597	45,518	32,405	51,596	4,669
Private Airplane, Private Glider	4,144	38	166	664	633	199	384	661	401	943	55
Private Airplane, Commercial Glider	841	3	21	181	123	63	104	87	77	175	7
Private Airplane, Private Gyroplane	22	0	2	2	6	2	2	1	4	3	0
Private Airplane, Private Helicopter	1,592	15	71	198	172	94	168	245	185	322	122
Private Airplane, Private Glider, Private Helicopter	67	0	1	15	9	6	4	7	6	13	6
Private Airplane, Commercial Helicopter	4,357	87	197	568	460	143	439	954	479	759	271
Private Airplane, Private Glider, Commercial Helicopter	36	1	1	6	4	1	6	5	1	7	4
Private Airplane, Commercial Glider, Commercial Helicopter	15	0	0	2	1	0	0	6	1	3	2
Private Airplane, Commercial Gyroplane, Commercial Helicopter	2	0	0	0	2	0	0	0	0	0	0
Commercial Pilots—Total	**149,666**	**2,481**	**7,137**	**18,392**	**21,968**	**6,030**	**13,739**	**27,072**	**18,743**	**24,998**	**9,106**
Commercial Airplane (only)	128,628	2,166	6,305	15,423	19,624	5,201	11,632	22,488	16,123	20,919	8,747
Commercial Airplane, Private Glider	2,081	25	94	326	295	77	233	370	221	422	18
Commercial Airplane, Commercial Glider	3,776	30	136	577	491	220	434	613	401	829	45
Commercial Airplane, Commercial Gyroplane, Commercial Glider	2	0	1	0	0	0	0	0	0	1	0
Commercial Airplane, Private Helicopter	348	6	11	51	56	15	31	56	34	74	14
Commercial Airplane, Commercial Glider, Private Helicopter	28	0	0	7	4	0	1	2	3	9	2
Commercial Airplane, Commercial Helicopter	14,036	242	562	1,891	1,410	475	1,323	3,400	1,883	2,583	267
Commercial Airplane, Private Glider, Commercial Helicopter	163	2	5	26	24	11	15	34	14	27	5
Commercial Airplane, Commercial Glider, Commercial Helicopter	543	7	20	88	52	29	61	98	59	123	
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	20	1	1	2	3	0	3	3	0	5	2
Commercial Airplane, Commercial Gyroplane	31	2	1	1	7	2	5	6	4	3	0
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	10	0	1	0	2	0	1	2	1	3	0
Airline Transport Pilots—Total	**107,732**	**1,097**	**3,744**	**12,659**	**13,623**	**4,757**	**10,673**	**22,549**	**13,795**	**17,758**	**7,077**
Airline Transport Airplane (only)	105,830	1,049	3,704	12,313	13,454	4,643	10,512	22,163	13,490	17,479	7,023
Airline Transport Airplane, Airline Transport Helicopter	1,902	48	40	346	169	114	161	386	305	279	54
Rotorcraft (only) Pilots—Total	**9,567**	**112**	**338**	**1,455**	**796**	**454**	**657**	**2,289**	**1,116**	**1,461**	**889**
Private Gyroplane	11	0	0	0	5	2	1	1	1	1	0
Private Helicopter	1,572	7	26	202	104	133	87	163	78	401	371
Commercial Helicopter	7,524	96	306	1,186	658	302	533	2,040	928	1,019	456
Commercial Helicopter, Private Glider	4	0	0	2	0	0	0	1	1	0	0
Commercial Helicopter, Commercial Glider	3	0	0	1	1	0	0	0	0	1	0
Commercial Gyroplane	2	0	0	0	1	0	0	0	1	0	0
Commercial Helicopter, Commercial Gyroplane	2	0	1	0	0	0	0	0	1	0	0
Airline Transport Helicopter	449	9	5	64	27	17	36	84	106	39	62

TABLE 7.3—Continued
ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD, BY CLASS OF CERTIFICATES AND BY FAA REGION: DECEMBER 31, 1990

Class of Certificate	Total [1]	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	Southern	South-west	Western Pacific	Outside U.S. [2]
Glider (only)—Total	**7,833**	**15**	**124**	**1,617**	**965**	**486**	**805**	**685**	**587**	**2,387**	**162**
Private Glider	6,773	10	108	1,363	832	397	687	593	507	2,135	141
Commercial Glider	1,060	5	16	254	133	89	118	92	80	252	21
Recreational Pilots	87	1	6	19	22	7	5	12	5	8	2
Nonpilots—Total	**492,237**	**4,957**	**23,803**	**67,893**	**63,821**	**20,101**	**42,319**	**88,033**	**65,876**	**93,029**	**22,405**
Mechanic [3]	344,282	3,432	18,424	48,799	43,957	13,794	27,152	58,421	47,518	67,587	15,198
Parachute Rigger [3]	10,094	159	441	1,697	1,254	362	1,365	1,934	1,023	1,677	182
Ground Instructor [3]	66,882	771	3,273	9,091	10,420	2,878	6,140	11,736	8,754	11,945	1,874
Dispatcher [3]	11,002	194	163	2,121	1,122	281	569	2,070	886	1,516	2,080
Flight Navigator	1,290	6	9	205	35	146	139	234	75	368	73
Flight Engineer	58,687	395	1,493	5,980	7,033	2,640	6,954	13,638	7,620	9,936	2,998
Flight Instructor Certificates—Total [4]	**63,775**	**732**	**3,206**	**9,033**	**10,993**	**2,914**	**6,223**	**11,053**	**7,775**	**10,436**	**1,410**
Instrument Ratings [5]	**297,073**	**3,610**	**13,062**	**37,904**	**44,034**	**13,036**	**27,110**	**57,676**	**36,516**	**49,700**	**14,425**

[1] Includes Outside U.S. total.
[2] *Outside U.S. includes airmen certificated by the FAA who live outside the 50 states or foreign countries.*
[3] Total ratings issued to date. These ratings retain their validity without periodic medical examinations.
[4] Not included in total.
[5] Special ratings shown on pilot certificates, do not indicate additional ratings.

TABLE 7.4
ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE: DECEMBER 31, 1990

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous [2]	Flight Instructor [3]
Total	**702,659**	**128,663**	**299,111**	**149,666**	**107,732**	**17,487**	**63,775**
United States—Total	**675,296**	**123,667**	**293,980**	**140,560**	**100,655**	**16,434**	**62,365**
Alaskan Region—Total	**9,715**	**1,407**	**4,602**	**2,481**	**1,097**	**128**	**732**
Central Region—Total	**34,820**	**5,916**	**17,555**	**7,137**	**3,744**	**468**	**3,206**
Iowa	7,334	1,283	4,056	1,432	478	85	638
Kansas	9,426	1,496	4,774	2,035	992	129	877
Missouri	13,057	2,283	6,189	2,496	1,871	218	1,296
Nebraska	5,003	854	2,536	1,174	403	36	395
Eastern Region—Total	**90,920**	**18,913**	**37,865**	**18,392**	**12,659**	**3,091**	**9,033**
Delaware	1,737	335	709	364	295	34	200
District of Columbia	569	116	248	135	41	29	55
Maryland	10,082	1,961	4,483	2,001	1,347	290	964
New Jersey	14,375	3,021	5,974	2,615	2,246	519	1,434
New York	24,599	5,594	10,473	4,921	2,491	1,120	2,319
Pennsylvania	21,413	4,481	9,185	3,931	3,211	605	2,331
Virginia	15,641	2,844	5,578	3,935	2,647	437	1,506
West Virginia	2,504	561	1,215	490	181	57	224
Great Lakes Region—Total	**115,339**	**22,317**	**55,648**	**21,968**	**13,623**	**1,783**	**10,993**
Illinois	26,271	4,985	11,946	4,876	4,019	445	2,744
Indiana	12,596	2,614	6,229	2,410	1,184	159	1,180
Michigan	19,958	4,106	9,946	3,558	1,948	400	1,843
Minnesota	16,966	3,067	7,854	3,287	2,561	197	1,504
North Dakota	3,277	600	1,628	906	126	17	291
Ohio	21,755	4,101	10,631	4,213	2,381	429	2,184
South Dakota	2,513	438	1,233	614	209	19	216
Wisconsin	12,003	2,406	6,181	2,104	1,195	117	1,031
New England Region—Total	**33,135**	**6,659**	**14,742**	**6,030**	**4,757**	**947**	**2,914**
Connecticut	8,643	1,573	3,500	1,551	1,777	242	771
Maine	3,877	828	1,807	824	355	63	296
Massachusetts	12,407	2,726	5,935	2,139	1,192	415	1,087
New Hampshire	4,793	832	1,941	866	1,026	128	470
Rhode Island	1,585	330	743	303	175	34	117
Vermont	1,830	370	816	347	232	65	173
Northwest Mountain Region—Total	**65,611**	**11,028**	**28,704**	**13,739**	**10,673**	**1,467**	**6,223**
Colorado	16,484	2,454	6,325	3,566	3,649	490	1,940
Idaho	4,367	685	2,181	972	457	72	378
Montana	3,842	626	1,939	926	314	37	356
Oregon	10,429	1,832	5,429	2,127	825	216	900
Utah	6,000	1,231	2,560	1,053	1,037	119	490
Washington	22,548	3,904	9,205	4,723	4,214	502	1,993
Wyoming	1,941	296	1,065	372	177	31	166
Southern Region—Total	**122,546**	**22,455**	**47,484**	**27,072**	**22,549**	**2,986**	**11,053**
Alabama	9,256	1,714	3,760	2,240	784	758	883
Florida	48,500	8,470	18,491	11,502	9,172	865	4,561
Georgia	18,827	3,145	6,636	3,732	4,552	362	1,505
Kentucky	6,041	1,214	2,528	1,047	1,116	136	568
Mississippi	4,695	939	1,886	1,386	388	96	395
North Carolina	15,574	2,984	6,396	3,126	2,676	392	1,244
South Carolina	7,060	1,534	2,926	1,654	817	129	592
Tennessee	12,593	2,455	4,861	2,385	2,644	248	1,305
Southwest Region—Total	**81,393**	**13,588**	**33,559**	**18,743**	**13,795**	**1,708**	**7,775**
Arkansas	5,990	1,132	2,646	1,615	525	72	502
Louisiana	7,969	1,448	3,109	2,153	957	302	730
New Mexico	4,897	817	2,133	1,249	564	134	527
Oklahoma	10,702	1,963	5,234	2,352	1,017	136	955
Texas	51,835	8,228	20,437	11,374	10,732	1,064	5,061
Western-Pacific Region—Total	**121,817**	**21,384**	**53,821**	**24,998**	**17,758**	**3,856**	**10,436**
Arizona	16,219	2,983	6,613	3,520	2,599	504	1,669
California	96,656	16,935	44,120	19,542	13,087	2,972	7,923
Hawaii	3,505	696	893	835	853	228	309
Nevada	5,437	770	2,195	1,101	1,219	152	535
Outside U. S. —Total [4]	**27,363**	**4,996**	**5,131**	**9,106**	**7,077**	**1,053**	**1,410**
Other U. S. Areas:	**2,063**	**615**	**664**	**358**	**370**	**56**	**0**
American Samoa	10	1	2	1	5	1	0
Canal Zone	2	0	0	1	1	0	0
Guam	146	20	29	18	73	6	0
Puerto Rico	1,628	530	542	275	236	45	0
Virgin Island	276	64	91	62	55	4	0
Wake Island	1	0	0	1	0	0	0

[1] Includes Outside U.S.
[2] Includes helicopter, glider, and recreational. Lighter-than-air type rating is no longer being issued.
[3] Not included in total.
[4] Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.5
ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE: DECEMBER 31, 1990

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous [2]	Flight Instructor [3]
Total [1]	**40,515**	**15,007**	**17,301**	**5,210**	**2,082**	**915**	**3,239**
United States—Total	**39,599**	**14,691**	**17,022**	**4,977**	**2,039**	**870**	**3,179**
Alaskan Region—Total	**721**	**236**	**362**	**94**	**23**	**6**	**49**
Central Region—Total	**1,784**	**673**	**847**	**183**	**63**	**18**	**118**
Iowa	330	129	153	38	7	3	15
Kansas	486	173	243	43	20	7	32
Missouri	737	286	338	77	29	7	54
Nebraska	231	85	113	25	7	1	17
Eastern Region—Total	**5,489**	**2,132**	**2,219**	**689**	**270**	**179**	**475**
Delaware	92	34	35	13	7	3	11
District of Columbia	57	21	25	4	6	1	4
Maryland	690	257	321	59	36	17	44
New Jersey	857	375	306	111	39	26	73
New York	1,440	557	568	177	66	72	120
Pennsylvania	1,353	511	562	191	58	31	126
Virginia	878	324	353	120	56	25	92
West Virginia	122	53	49	14	2	4	5
Great Lakes Region—Total	**6,741**	**2,569**	**2,952**	**850**	**287**	**83**	**564**
Illinois	1,648	600	705	229	97	17	153
Indiana	681	270	284	92	29	6	63
Michigan	1,204	478	517	139	40	30	91
Minnesota	963	372	407	120	52	12	84
North Dakota	179	63	82	33	1	0	18
Ohio	1,263	451	595	157	44	16	107
South Dakota	97	33	47	12	4	1	5
Wisconsin	706	302	315	68	20	1	43
New England Region—Total	**2,115**	**811**	**896**	**237**	**111**	**60**	**164**
Connecticut	531	198	211	62	42	18	44
Maine	217	88	99	20	9	1	12
Massachusetts	810	326	347	89	32	16	62
New Hampshire	314	111	131	39	17	16	32
Rhode Island	110	37	52	15	4	2	5
Vermont	133	51	56	12	7	7	9
Northwest Mountain Region—Total	**4,211**	**1,449**	**1,838**	**584**	**240**	**100**	**353**
Colorado	1,175	388	440	212	95	40	140
Idaho	235	77	113	36	5	4	20
Montana	186	62	95	22	6	1	12
Oregon	714	248	358	71	22	15	51
Utah	275	111	110	29	18	7	15
Washington	1,516	532	657	203	91	33	111
Wyoming	110	31	65	11	3	0	4
Southern Region—Total	**6,267**	**2,540**	**2,431**	**776**	**401**	**119**	**483**
Alabama	401	185	157	26	7	26	15
Florida	2,863	1,105	1,153	401	162	42	245
Georgia	804	346	307	87	53	11	51
Kentucky	276	111	92	35	35	3	25
Mississippi	202	83	80	25	10	4	16
North Carolina	762	306	301	90	48	17	65
South Carolina	320	147	111	41	15	6	21
Tennessee	639	257	230	71	71	10	45
Southwest Region—Total	**4,049**	**1,500**	**1,767**	**508**	**211**	**63**	**324**
Arkansas	263	106	121	31	3	2	14
Louisiana	301	128	115	44	10	4	29
New Mexico	322	121	125	46	18	12	36
Oklahoma	617	227	288	70	27	5	49
Texas	2,546	918	1,118	317	153	40	196
Western-Pacific Region—Total	**8,222**	**2,761**	**3,710**	**1,056**	**433**	**242**	**849**
Arizona	1,079	365	479	141	61	33	91
California	6,564	2,225	2,992	837	328	182	503
Hawaii	233	79	73	37	26	18	27
Nevada	346	112	166	41	18	9	28
Outside U. S. —Total [4]	**916**	**316**	**279**	**233**	**43**	**45**	**60**
Other U. S. Areas:	**84**	**47**	**17**	**9**	**7**	**5**	**0**
American Samoa	0	0	0	0	0	0	0
Canal Zone	0	0	0	0	0	0	0
Guam	10	2	3	1	3	1	0
Puerto Rico	57	36	11	4	2	4	0
Virgin Island	17	9	3	3	2	0	0
Wake Island	0	0	0	0	0	0	0

[1] Includes Outside U.S.
[2] Includes helicopter, glider, and recreational pilots. Lighter-than-air type rating is no longer being issued.
[3] Not included in total.
[4] Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.6
ESTIMATED ACTIVE HELICOPTER PILOTS
BY CLASS OF CERTIFICATES
DECEMBER 31, 1990

Class of Certificates	Number of Certificates Held
TOTAL	**32,741**
Private Helicopter	1,572
Private Helicopter, Private Airplane	1,592
Private Helicopter, Private Airplane, Private Glider	67
Private Helicopter, Commercial Airplane	348
Private Helicopter, Commercial Airplane, Commercial Glider	28
Private Gyroplane	11
Private Gyroplane, Private Airplane	22
Commercial Helicopter	7,524
Commercial Helicopter, Private Airplane	4,357
Commercial Helicopter, Private Glider	4
Commercial Helicopter, Commercial Glider	3
Commercial Helicopter, Private Airplane, Commercial Gyroplane	2
Commercial Helicopter, Private Airplane, Private Glider	36
Commercial Helicopter, Private Airplane, Commercial Glider	15
Commercial Helicopter, Commercial Airplane	14,036
Commercial Helicopter, Commercial Airplane, Private Glider	163
Commercial Helicopter, Commercial Airplane, Commercial Glider	543
Commercial Gyroplane	2
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane	20
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane, Commercial Glider	10
Commercial Helicopter, Commercial Gyroplane	2
Commercial Gyroplane, Commercial Airplane	31
Commercial Gyroplane, Commercial Airplane, Commercial Glider	2
Airline Transport Helicopter	449
Airline Transport Airplane, Airline Transport Helicopter	1,902

TABLE 7.7
ESTIMATED ACTIVE HELICOPTER PILOTS
BY CLASS OF CERTIFICATES
DECEMBER 31, 1990

Class of Certificates	Number of Certificates Held
Total	**19,546**
Private Glider	6,773
Private Glider, Private Airplane	4,144
Private Glider, Private Airplane, Private Helicopter	67
Private Glider, Private Airplane, Commercial Helicopter	36
Private Glider, Commercial Airplane	2,081
Private Glider, Commercial Airplane, Commercial Helicopter	163
Private Glider, Commercial Helicopter	4
Commercial Glider	1,060
Commercial Glider, Commercial Airplane	3,776
Commercial Glider, Private Airplane	841
Commercial Glider, Private Airplane, Commercial Helicopter	15
Commercial Glider, Commercial Helicopter	3
Commercial Glider, Commercial Airplane, Private Helicopter	28
Commercial Glider, Commercial Airplane, Commercial Helicopter	543
Commercial Glider, Commercial Airplane, Commercial Gyroplane	2
Commercial Glider, Commercial Airplane, Commercial Gyroplane, Commercial Helicopter	10

TABLE 7.8
ESTIMATED ACTIVE HELICOPTER AND GLIDER PILOTS
DECEMBER 31, 1986-1990

Calendar Year	Total Helicopter Pilots [1]		Total Glider Pilots [2]	
	Number	Percent Change	Number	Percent Change
1990	32,741	3.6%	19,546	2.1%
1989	31,602	0.8%	19,149	0.3%
1988	31,349	-0.5%	19,095	-2.2%
1987	31,513	-0.6%	19,530	-4.1%
1986	31,697	1.6%	20,355	-1.8%

[1] Includes pilots with ratings to fly helicopters only.
[2] Includes pilots with ratings to fly gliders only.

TABLE 7.9
ESTIMATED TOTAL PILOTS AND INSTRUMENT RATED PILOTS
DECEMBER 31, 1986-1990

Calendar Year	Total Pilots [1]	Instrument Rated Pilots	
		Number	Percent of Total
1990	574,208	297,073	51.7%
1989	557,466	282,804	50.7%
1988	557,103	273,804	49.1%
1987	553,637	266,122	48.1%
1986	558,845	262,388	47.0%

[1] Excludes student pilots.

TABLE 7.10
ESTIMATED ACTIVE PILOT CERTIFICATES HELD BY CATEGORY AND AGE GROUP OF HOLDER
1990, 1989, 1986

	Type of Pilot Certificates								
	Total Active Pilots			Student			Private		
YEAR	1990	1989	1986	1990	1989	1986	1990	1989	1986
Total	**702,659**	**700,010**	**709,118**	**128,863**	**142,544**	**150,273**	**299,111**	**293,179**	**305,736**
Age Group									
14-15	36	233	252	236	233	252	0	0	0
16-19	17,810	19,487	18,135	13,743	15,207	14,652	3,715	3,910	3,222
20-24	57,022	55,353	58,029	23,510	24,346	27,477	20,888	19,804	21,096
25-29	80,880	82,706	89,246	23,410	25,708	28,885	27,929	29,133	33,569
30-34	94,816	96,167	102,263	20,262	22,930	25,086	37,790	38,367	44,654
35-39	97,095	97,183	105,580	16,557	18,529	19,531	44,881	43,781	46,367
40-44	98,681	98,638	96,586	12,272	14,000	13,606	43,646	41,769	41,428
45-49	80,583	79,453	73,040	7,859	8,847	8,234	35,207	34,283	32,152
50-54	60,586	58,701	59,077	4,705	5,269	5,438	26,729	25,691	27,064
55-59	46,550	46,890	48,211	2,984	3,536	3,685	21,929	22,376	26,539
60 and over	68,600	65,199	58,699	3,325	3,939	3,427	36,397	34,065	29,645

	Type of Pilot Certificates								
	Commercial			Airline Transport			Helicopter (Only)		
YEAR	1990	1989	1986	1990	1989	1986	1990	1989	1986
Total	**149,666**	**144,540**	**147,798**	**107,732**	**102,087**	**87,186**	**9,567**	**8,863**	**8,581**
Age Group									
14-15	0	0	0	0	0	0	0	0	0
16-19	247	244	114	0	0	0	33	24	23
20-24	11,107	9,654	7,600	382	411	413	872	817	889
25-29	20,354	18,687	17,226	6,216	6,258	6,308	2,465	2,265	2,379
30-34	18,132	16,944	16,769	15,701	14,920	12,438	2,016	1,823	1,672
35-39	16,040	15,924	20,169	16,992	16,112	15,933	1,297	1,252	1,779
40-44	19,546	20,277	23,661	20,167	19,490	15,437	1,671	1,629	1,118
45-49	18,518	18,365	18,000	17,378	16,331	13,409	717	638	418
50-54	14,077	13,783	14,947	14,123	13,074	10,819	311	260	173
55-59	11,623	11,529	10,816	9,389	8,784	6,398	109	88	81
60 and over	20,022	19,133	18,496	7,384	6,707	6,031	76	67	49

	Type of Pilot Certificates								
	Glider (Only) [1]			Recreational			Flight Instructor [2]		
YEAR	1990	1989	1986	1990	1989	1986	1990	1989	1986
Total	**7,833**	**7,708**	**8,411**	**87**	**N/A**	**N/A**	**63,775**	**61,472**	**57,355**
Age Group									
14-15	0	0	0	0			0	0	0
16-19	72	91	105	0			87	66	48
20-24	260	286	518	3			5,258	4,649	4,033
25-29	495	548	741	11			8,879	8,062	7,700
30-34	899	983	1,397	16			8,493	8,252	8,301
35-39	1,313	1,314	1,495	15			8,372	8,282	8,978
40-44	1,369	1,253	1,137	10			9,102	9,251	8,633
45-49	897	844	737	7			7,627	7,470	6,275
50-54	634	591	582	7			5,715	5,529	4,984
55-59	510	539	665	6			4,262	4,196	3,469
60 and over	1,384	1,259	1,034	12			5,980	5,715	4,934

[1] Glider pilots are not required to have a medical examination; however, totals above represent pilots who received a medical examination.
[2] Not included in total active pilots.

TABLE 7.11
AVERAGE AGE OF ACTIVE PILOTS BY CATEGORY
DECEMBER 31, 1981–1990

Year	Total [1]	Student	Private	Commercial	Airline Transport
1981	37.8	30.7	39.3	40.7	42.0
1982	38.3	31.2	39.5	41.0	42.3
1983	38.8	31.7	40.0	41.5	42.5
1984	39.2	32.1	40.4	42.0	42.7
1985	39.5	32.4	40.8	42.4	42.8
1986	39.7	32.2	41.1	42.6	43
1987	39.9	32.3	41.4	42.7	43.1
1988	40.1	32.5	41.4	42.6	43.2
1989	40.2	32.7	41.8	42.5	43.4
1990	40.5	32.5	42.0	42.2	43.6

[1] Includes helicopter (only), glider (only), and recreational pilots not shown separately.

TABLE 7.12
ESTIMATED INSTRUMENT RATING HELD
BY CLASS OF CERTIFICATES
DECEMBER 31, 1989 AND 1990

Class of Certificates	1989	1990	Percent Change 1990–1989
Total—All Pilots	**297,073**	**282,804**	**5%**
Private Pilots—Total	**53,920**	**51,067**	**6%**
Private Airplane (only)	49,550	46,859	6%
Private Airplane, Private Glider	1,069	1,023	4%
Private Airplane, Commercial Glider	122	119	3%
Private Airplane, Private Helicopter	432	403	7%
Private Airplane, Private Glider, Private Helicopter	32	27	19%
Private Airplane, Commercial Helicopter	2,683	2,606	3%
Private Airplane, Private Gyroplane	5	5	0%
Private Airplane, Private Glider, Commercial Helicopter	16	12	33%
Private Airplane, Commercial Glider, Commercial Helicopter	10	12	-17%
Private Airplane, Other	1	1	0%
Commercial Pilots—Total	**129,426**	**123,908**	**4%**
Commercial Airplane (only)	110,719	105,402	5%
Commercial Airplane, Private Glider	1,825	1,783	2%
Commercial Airplane, Commercial Glider	3,141	3,037	3%
Commercial Airplane, Private Helicopter	307	282	9%
Commercial Airplane, Commercial Helicopter	12,716	12,708	0%
Commercial Airplane, Private Glider, Commercial Helicopter	145	136	7%
Commercial Airplane, Commercial Glider, Commercial Helicopter	496	488	2%
Commercial Airplane, Commercial Gyroplane	22	19	16%
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	17	16	6%
Commercial Airplane, Commercial Gyroplane, Commercial Glider	2	2	0%
Commercial Airplane, Commercial Glider, Private Helicopter	27	24	13%
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter Commercial Glider	9	11	-18%
Airline Transport Pilots—Total	**107,732**	**102,087**	**6%**
Airline Transport Airplane (only)	105,830	100,317	5%
Airline Transport Airplane, Airline Transport Helicopter	1,902	1,770	7%
Rotorcraft Pilots—Total	**5,995**	**5,742**	**4%**
Commercial Helicopter	5,923	5,660	5%
Airline Transport Helicopter	62	71	-13%
Other	10	11	-9%

TABLE 7.13
ESTIMATED INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES, BY FAA REGION: DECEMBER 31, 1990

Class of Certificate	Total [1]	Alaskan	Central	Eastern	Great Lakes	New England	North-west Moun-tain	South-ern	South-west	Western Pacific	Outside U.S. [2]
Total—All Pilots	**297,073**	**3,610**	**13,062**	**37,904**	**44,034**	**13,036**	**27,110**	**57,676**	**36,516**	**49,700**	**14,425**
Private Pilots—Total	**53,920**	**368**	**2,994**	**7,537**	**10,350**	**2,731**	**4,218**	**9,323**	**5,939**	**9,929**	**531**
Private Airplane (only)	49,550	302	2,785	6,857	9,819	2,538	3,829	8,328	5,423	9,187	482
Private Airplane, Private Glider	1,069	4	31	172	167	59	75	180	107	266	8
Private Airplane, Commercial Glider	122	2	4	18	15	17	20	9	14	22	1
Private Airplane, Private Helicopter	432	1	21	67	51	30	40	77	54	85	6
Private Airplane, Private Glider, Private Helicopter	32	0	0	6	5	2	3	3	4	8	1
Private Airplane, Commercial Helicopter	2,683	59	150	413	286	83	248	719	335	358	32
Private Airplane, Private Gyroplane	5	0	2	0	2	1	0	0	0	0	0
Private Airplane, Private Glider, Commercial Helicopter	16	0	1	3	3	1	3	3	1	1	0
Private Airplane, Commercial Glider, Commercial Helicopter	10	0	0	1	1	0	0	4	1	2	1
Private Airplane, Other	1	0	0	0	1	0	0	0	0	0	0
Commercial Pilots—Total	**129,426**	**2,056**	**6,049**	**16,681**	**19,488**	**5,320**	**11,804**	**23,974**	**15,992**	**21,344**	**6,718**
Commercial Airplane (only)	110,719	1,783	5,313	13,970	17,392	4,574	9,998	19,787	13,675	17,816	6,411
Commercial Airplane, Private Glider	1,825	23	80	286	261	70	196	334	189	369	17
Commercial Airplane, Commercial Glider	3,141	26	114	470	434	188	365	511	341	655	37
Commercial Airplane, Private Helicopter	307	4	9	48	47	14	28	51	31	63	12
Commercial Airplane, Commercial Helicopter	12,716	209	505	1,791	1,275	434	1,140	3,165	1,683	2,288	226
Commercial Airplane, Private Glider, Commercial Helicopter	145	2	5	25	20	11	14	29	13	21	5
Commercial Airplane, Commercial Glider, Commercial Helicopter	496	7	19	84	45	27	54	89	53	112	6
Commercial Airplane, Commercial Gyroplane	22	1	1	1	6	2	4	2	3	2	0
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	17	1	1	0	3	0	3	2	0	5	2
Commercial Airplane, Commercial Gyroplane, Commercial Glider	2	0	1	0	0	0	0	0	0	1	0
Commercial Airplane, Commercial Glider, Private Helicopter	27	0	0	6	4	0	1	2	3	9	2
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	9	0	1	0	1	0	1	2	1	3	0
Airline Transport Pilots—Total	**107,732**	**1,097**	**3,744**	**12,659**	**13,623**	**4,757**	**10,673**	**22,549**	**13,795**	**17,758**	**7,077**
Airline Transport Airplane (only)	105,830	1,049	3,704	12,313	13,454	4,643	10,512	22,163	13,490	17,479	7,023
Airline Transport Airplane, Airline Transport Helicopter	1,902	48	40	346	169	114	161	386	305	279	54
Rotorcraft Pilots (only)—Total	**5,995**	**89**	**275**	**1,027**	**573**	**228**	**415**	**1,830**	**790**	**669**	**99**
Commercial Helicopter	5,923	88	274	1,019	565	222	408	1,816	772	663	96
Airline Transport Helicopter	62	1	1	7	8	4	7	11	15	5	3
Other	10	0	0	1	0	2	0	3	3	1	0

[1] Includes Outside U.S. total.
[2] Outside U.S. includes airmen certificated by FAA who live outside the 50 states or foreign countries.

TABLE 7.14
ESTIMATED ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE: DECEMBER 31, 1990 [1]

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Total [2]	**492,237**	**344,262**	**10,094**	**66,882**	**11,002**	**1,290**	**58,687**
United States—Total	**469,832**	**329,084**	**9,912**	**65,006**	**8,922**	**1,217**	**55,689**
Alaskan Region—Total	**4,957**	**3,432**	**159**	**771**	**194**	**6**	**395**
Central Region—Total	**23,803**	**18,424**	**441**	**3,273**	**163**	**9**	**1,493**
Iowa	2,939	2,182	92	539	9	0	117
Kansas	6,526	5,059	113	965	42	2	345
Missouri	12,310	9,688	167	1,430	107	4	914
Nebraska	2,028	1,495	69	339	5	3	117
Eastern Region—Total	**67,893**	**48,799**	**1,697**	**9,091**	**2,121**	**205**	**5,980**
Delaware	1,295	938	28	157	16	5	151
District of Columbia	339	205	22	79	16	0	17
Maryland	4,519	2,749	147	872	67	10	674
New Jersey	11,394	8,056	235	1,402	356	53	1,292
New York	25,636	20,276	400	2,671	1,153	57	1,079
Pennsylvania	16,003	11,646	364	2,287	352	43	1,311
Virginia	7,635	4,189	453	1,397	155	37	1,404
West Virginia	1,072	740	48	226	6	0	52
Great Lakes Region—Total	**63,821**	**43,957**	**1,254**	**10,420**	**1,122**	**35**	**7,033**
Illinois	17,039	11,227	279	2,664	351	14	2,504
Indiana	6,390	4,533	194	1,024	74	4	561
Michigan	10,181	7,207	190	1,944	113	5	722
Minnesota	11,301	7,658	139	1,320	386	2	1,796
North Dakota	1,031	807	26	158	2	0	38
Ohio	11,813	8,401	269	2,143	132	5	863
South Dakota	1,056	732	24	220	2	1	77
Wisconsin	5,010	3,392	133	947	62	4	472
New England Region—Total	**20,101**	**13,794**	**362**	**2,878**	**281**	**146**	**2,640**
Connecticut	6,077	3,993	82	800	85	98	1,019
Maine	1,445	941	46	253	31	8	166
Massachusetts	8,799	6,804	170	1,127	102	10	586
New Hampshire	2,208	1,042	35	386	34	23	688
Rhode Island	873	589	19	166	13	3	83
Vermont	699	425	10	146	16	4	98
Northwest Mountain Region—Total	**42,319**	**27,152**	**1,365**	**6,140**	**569**	**139**	**6,954**
Colorado	12,929	7,826	165	1,992	220	26	2,700
Idaho	1,822	1,205	168	311	12	4	122
Montana	2,096	1,339	286	352	5	3	111
Oregon	4,543	3,155	247	750	46	27	318
Utah	3,296	2,027	82	454	24	5	704
Washington	16,525	10,771	384	2,121	252	72	2,925
Wyoming	1,108	829	33	160	10	2	74
Southern Region—Total	**88,033**	**58,421**	**1,934**	**11,736**	**2,070**	**234**	**13,638**
Alabama	6,278	5,003	132	909	13	7	214
Florida	39,899	27,252	579	5,311	1,216	187	5,354
Georgia	17,968	11,741	289	1,614	331	9	3,984
Kentucky	3,395	1,964	161	531	110	1	628
Mississippi	1,928	1,340	48	375	11	3	151
North Carolina	8,304	4,999	459	1,285	143	15	1,403
South Carolina	3,226	2,106	94	588	25	2	411
Tennessee	7,035	4,016	172	1,123	221	10	1,493
Southwest Region—Total	**65,876**	**47,518**	**1,023**	**8,754**	**886**	**75**	**7,620**
Arkansas	2,687	1,943	72	470	19	1	182
Louisiana	4,999	3,600	91	668	48	6	386
New Mexico	2,407	1,624	72	536	27	4	144
Oklahoma	15,021	13,028	164	1,396	31	6	396
Texas	40,762	27,123	624	5,684	761	58	6,512
Western-Pacific Region—Total	**93,029**	**67,587**	**1,677**	**11,945**	**1,516**	**368**	**9,936**
Arizona	10,504	7,388	195	1,722	251	20	926
California	76,104	56,015	1,366	9,275	1,072	287	8,089
Hawaii	3,306	2,402	55	384	144	8	313
Nevada	3,115	1,782	61	564	49	53	606
Outside U. S. —Total [3]	**22,405**	**15,198**	**182**	**1,874**	**2,080**	**73**	**2,996**
Other U. S. Areas:	**1,677**	**1,243**	**37**	**209**	**70**	**1**	**117**
American Samoa	13	9	0	3	0	0	1
Canal Zone	39	14	18	3	2	0	2
Guam	214	113	3	26	8	0	64
Puerto Rico	1,259	996	13	151	57	1	41
Virgin Island	143	102	3	26	3	0	9
Wake Island	9	9	0	0	0	0	0

[1] Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity.

[2] Includes Outside U. S.

[3] Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.15
ESTIMATED ACTIVE WOMEN NONPILOT CERTIFICATES HELD, BY FAA REGION AND STATE: DECEMBER 31, 1990 [1]

FAA Region and State	Total Nonpilot Women	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Total [2]	**9,557**	**3,333**	**474**	**3,760**	**802**	**0**	**1,188**
United States—Total	**9,398**	**3,315**	**466**	**3,685**	**767**	**0**	**1,165**
Alaskan Region—Total	**156**	**37**	**11**	**52**	**46**	**0**	**10**
Central Region—Total	**421**	**205**	**18**	**162**	**7**	**0**	**29**
Iowa	83	45	2	33	2	0	1
Kansas	139	76	6	50	0	0	7
Missouri	161	72	7	59	5	0	18
Nebraska	38	12	3	20	0	0	3
Eastern Region—Total	**1,187**	**281**	**93**	**497**	**171**	**0**	**145**
Delaware	28	12	2	8	2	0	4
District of Columbia	12	0	2	5	1	0	4
Maryland	100	14	4	54	8	0	20
New Jersey	161	40	7	59	32	0	23
New York	395	109	18	156	81	0	31
Pennsylvania	283	59	27	126	40	0	31
Virginia	184	31	33	82	6	0	32
West Virginia	24	16	0	7	1	0	0
Great Lakes Region—Total	**1,511**	**532**	**63**	**619**	**116**	**0**	**181**
Illinois	441	151	16	168	27	0	79
Indiana	155	34	19	63	12	0	27
Michigan	249	79	7	133	13	0	17
Minnesota	205	80	4	51	38	0	32
North Dakota	9	1	0	8	0	0	0
Ohio	310	150	12	121	15	0	12
South Dakota	21	5	0	16	0	0	0
Wisconsin	121	32	5	59	11	0	14
New England Region—Total	**405**	**129**	**16**	**176**	**24**	**0**	**58**
Connecticut	142	54	4	48	11	0	25
Maine	35	7	1	16	3	0	8
Massachusetts	149	45	9	75	7	0	13
New Hampshire	50	17	3	19	2	0	9
Rhode Island	16	4	0	9	1	0	2
Vermont	13	2	1	9	0	0	1
Northwest Mountain Region—Total	**936**	**333**	**31**	**356**	**47**	**0**	**169**
Colorado	320	101	1	119	15	0	84
Idaho	33	10	2	17	3	0	1
Montana	38	7	5	23	1	0	2
Oregon	97	23	10	56	3	0	5
Utah	64	19	6	25	3	0	11
Washington	360	165	5	106	20	0	64
Wyoming	24	8	2	10	2	0	2
Southern Region—Total	**1,684**	**493**	**127**	**660**	**153**	**0**	**251**
Alabama	150	49	7	92	1	0	1
Florida	714	236	20	272	89	0	97
Georgia	197	75	11	63	12	0	36
Kentucky	117	26	9	39	18	0	25
Mississippi	36	10	2	20	1	0	3
North Carolina	190	37	40	80	8	0	25
South Carolina	69	21	4	31	3	0	10
Tennessee	211	39	34	63	21	0	54
Southwest Region—Total	**1,219**	**504**	**49**	**475**	**83**	**0**	**108**
Arkansas	38	13	0	20	1	0	4
Louisiana	98	48	2	38	8	0	2
New Mexico	75	23	3	41	2	0	6
Oklahoma	247	149	8	82	2	0	6
Texas	761	271	36	294	70	0	90
Western-Pacific Region—Total	**1,879**	**801**	**56**	**688**	**120**	**0**	**214**
Arizona	243	86	6	102	24	0	25
California	1,521	691	48	535	74	0	173
Hawaii	68	12	0	30	16	0	10
Nevada	47	12	2	21	6	0	6
Outside U. S. —Total [3]	**159**	**18**	**8**	**75**	**35**	**0**	**23**
Other U. S. Areas:	**21**	**7**	**0**	**9**	**1**	**0**	**4**
American Samoa	0	0	0	0	0	0	0
Canal Zone	0	0	0	0	0	0	0
Guam	5	1	0	1	0	0	3
Puerto Rico	11	4	0	6	1	0	0
Virgin Island	5	2	0	2	0	0	1
Wake Island	0	0	0	0	0	0	0

[1] Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity.

[2] Includes Outside U. S.

[3] Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.16
PILOT CERTIFICATES ISSUED, BY CATEGORY: 1986–1990

Category of Certificates	1986		1987		1988		1989		1990	
	Original	Additional	Original	Additional	Original	Additional	Original	Additional	Original	Additional
Pilot—Total	**141,625**	**32,628**	**149,640**	**39,990**	**148,018**	**37,921**	**146,951**	**46,990**	**156,955**	**45,730**
Student	88,699	0	85,611	0	86,193	0	87,427	0	88,586	0
Private	34,816	12,672	42,278	16,302	39,900	15,800	35,360	22,240	41,749	19,299
Commercial	8,889	9,241	11,314	11,365	12,042	10,597	13,759	11,778	15,500	12,584
Airline Transport	6,498	10,372	7,678	11,956	7,461	11,209	7,829	12,698	8,013	13,540
Helicopter (only)	2,209	234	2,217	293	1,947	287	2,240	252	2,700	266
Glider (only)	514	109	542	74	475	28	336	22	378	41
Recreational	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29	0
Nonpilot—Total [3]	**16,470**	**5,010**	**21,878**	**5,486**	**21,064**	**6,107**	**23,078**	**7,688**	**27,113**	**8,387**
Mechanic	10,998	3,289	15,089	4,195	14,907	4,353	15,923	5,728	19,861	6,381
Parachute Rigger	149	11	194	11	142	8	167	21	227	12
Ground Instructor	1,386	323	1,825	366	1,716	334	2,133	399	2,664	434
Dispatcher	516	1	533	3	510	2	431	5	550	2
Flight Navigator	17	0	4	0	17	0	14	0	1	1
Flight Engineer	3,404	1,386	4,233	911	3,772	1,410	4,410	1,535	3,810	1,557
Flight Instructor Certificates [1]	**4,628**	**5,421**	**6,327**	**6,378**	**4,898**	**5,234**	**5,365**	**7,532**	**7,071**	**8,517**
Instrument Ratings [2]	**0**	**13,688**	**0**	**18,296**	**0**	**16,810**	**0**	**20,911**	**0**	**22,528**

[3] Revised 1986-1988.
N/A Not Available.
Note: Additional ratings are entered on current airman certificates as follows: Private, commercial, and airline transport pilot—aircraft category, class, and type instrument rating. Helicopter pilot—instrument and type ratings. Flight instructor—ratings for each aircraft category in which the holder is qualified, and for instrument flying instructions. Mechanic—airframe and powerplant ratings. Parachute rigger—senior or master rigger—senior or master rigger ratings. Ground instructor—ratings for each subject in which the holder is qualified to give instruction.
[1] Not included in total.
[2] Special ratings shown on pilot certificates represented above; not included in total.

TABLE 7.17
PILOT CERTIFICATES ISSUED, BY CATEGORY AND CONDUCTOR: DECEMBER 31, 1990

Category of Certificates	Total Ratings Issued	Original Issuances				Additional Ratings			
		Total	Examiner	Inspector	No Test	Total	Examiner	Inspector	No Test
Pilot—Total	**202,685**	**156,955**	**55,385**	**89,389**	**12,181**	**45,730**	**40,206**	**1,631**	**3,893**
Student	88,586	88,586	0	88,586	0	0	0	0	0
Private	61,048	41,749	34,896	97	6,756	19,299	18,181	63	1,055
Commercial	28,084	15,500	11,655	89	3,756	12,584	10,747	93	1,744
Airline Transport	21,553	8,013	7,029	549	435	13,540	11,039	1,461	1,040
Helicopter (only)	2,966	2,700	1,439	58	1,203	266	206	12	48
Glider (only)	419	378	338	9	31	41	33	2	6
Recreational	29	29	28	1	0	0	0	0	0
Nonpilot—Total [3]	**35,500**	**27,113**	**20,536**	**401**	**6,176**	**8,387**	**5,238**	**33**	**3,116**
Mechanic	26,242	19,861	16,781	49	3,031	6,381	4,741	11	1,629
Parachute Rigger	239	227	135	21	71	12	6	0	6
Ground Instructor	3,098	2,664	286	43	2,335	434	45	13	376
Dispatcher	552	550	359	67	124	2	1	1	0
Flight Navigator	2	1	0	0	1	1	0	0	1
Flight Engineer	**5,367**	**3,810**	**2,975**	**221**	**614**	**1,557**	**445**	**8**	**1,104**
Flight Instructor Certificates *	**7,071**	**7,071**	**5,105**	**1,752**	**214**	**0**	**8,139**	**318**	**60**

(P) Preliminary
Note: Excludes Renewals
Note: Additional ratings are entered on current airman certificates as follows: Private, commercial, and airline transport pilot—aircraft category, class, and type instrument rating. Helicopter pilot—instrument and type ratings. Flight instructor—ratings for each aircraft category in which the holder is qualified, and for instrument flying instructions. Mechanic—airframe and powerplant ratings. Parachute rigger—senior or master rigger—senior or master rigger ratings. Ground instructor—ratings for each subject in which the holder is qualified to give instruction.
Special ratings shown on pilot certificates represented above; not included in total.

TABLE 7.18
INSTRUMENT RATINGS ISSUED:
1990, 1989, 1986

Class of Certificates	1990	1989	1986	Percent Change 1990–1989
Total—All Pilots	**22,528**	**20,911**	**13,688**	**8%**
Private Pilots—Total	**13,065**	**11,681**	**8,355**	**12%**
Private Airplane (only)	11,848	10,554	7,840	12%
Private Airplane, Private Glider	111	93	95	19%
Private Airplane, Commercial Glider	15	18	1	-17%
Private Airplane, Private Helicopter	36	38	29	-5%
Private Airplane, Private Glider, Private Helicopter	1	3	1	—
Private Airplane, Commercial Helicopter	309	293	178	5%
Private Airplane, Other	745	682	211	9%
Commercial Pilots—Total	**8,338**	**8,091**	**4,183**	**3%**
Commercial Airplane (only)	7,408	7,122	3,437	4%
Commercial Airplane, Private Glider	54	54	31	0%
Commercial Airplane, Commercial Glider	66	54	31	22%
Commercial Airplane, Private Helicopter	12	12	5	0%
Commercial Airplane, Commercial Helicopter	788	843	666	-7%
Commercial Airplane, Private Glider, Commercial Helicopter	4	3	3	33%
Commercial Airplane, Commercial Glider, Commercial Helicopter	4	1	9	300%
Commercial Airplane, Other	2	2	1	0%
Rotorcraft Pilots—Total	**1,125**	**1,139**	**1,150**	**-1%**
Commercial Helicopter	1,097	1,113	1,145	-1%
Commercial Helicopter, Airline Transport Helicopter	20	17	0	18%
Commercial Helicopter, Private Glider	1	0	1	—
Commercial Helicopter, Other	7	9	4	-22%

TABLE 7.19
STUDENT CERTIFICATES ISSUED, BY MONTH:
1986–1990

Month	1986	1987	1988	1989	1990
TOTAL	**88,706**	**85,661**	**82,110**	**87,427**	**88,586**
January	6,641	6,098	5,410	7,789	6,699
February	5,590	6,543	6,157	7,156	6,266
March	6,472	7,125	7,133	6,833	7,372
April	7,488	7,139	6,606	6,059	7,044
May	7,415	6,164	7,014	6,870	7,604
June	8,211	8,491	8,539	8,675	8,284
July	9,648	8,973	7,796	8,305	9,037
August	8,886	8,389	8,981	8,976	9,155
September	8,961	8,109	7,624	8,080	7,509
October	8,133	7,585	7,133	7,616	8,103
November	5,809	5,912	6,086	6,203	6,551
December	5,452	5,133	3,631	4,865	4,962

VIII. GENERAL AVIATION AIRCRAFT

General aviation aircraft activity information was obtained using the General Aviation Activity and Avionics Survey, which is mailed to the owners of a sample of registered general aviation aircraft. The sample is a scientifically designed random sample which represents all general aviation aircraft registered in the United States.

The survey collects data relative to flight hours, airframe hours and the avionics equipment on board the aircraft. In addition, the survey collects information about the number of hours flown under instrument flight rules, fuel consumption rates, and the state where the aircraft is based.

Because the estimates are derived from a sample—not the total population of aircraft—a certain amount of sampling error is introduced. The user must consider this error along with the estimate itself when making an inference or drawing any conclusions about the aircraft population. Although the exact value of the sample error is unknown, a quantity known as the standard error is used to approximate it. Using the standard error, one can develop an interval within which the true population estimate will lie with a known probability. The probability that the true value lies within the interval depends on the width of the interval, i.e., the estimate plus or minus 1, 2, or 3 times the standard error. The table below shows selected interval widths and their corresponding confidence.

Width of Interval	Approximate Confidence That Interval Includes True Value
1 standard error	68%
2 standard errors	95%
3 standard errors	99%

For example, if the estimate for the total number of active piston powered rotorcraft were 2,658 and the standard error was 176, then the 95% confidence interval would be 2,658 + 2(176) or (2306, 3010). One would say that there is a 95% chance that the number of active piston powered rotorcraft lies between 2306 and 3010.

In some tables, the standard error is expressed as a percent. To calculate the standard error, multiply the estimated by the percentage. To derive the 95% confidence interval, proceed as before. For example, if total hours flown were 35,792 thousand hours and the percentage standard error was 3.0%, the 95% confidence interval would be:

$$35{,}792 + (2 \times 3\% \times 35{,}792) = 35{,}792 \pm 2148 = (33{,}644: 37{,}940)$$

The standard error, percent standard error, or a code for the standard error is shown for each estimate made from the sample in this chapter.

More detailed estimates and more detailed discussion of the survey and its methodology are available in *General Aviation Activity and Avionics Survey.*

TABLE 8.1
ACTIVE GENERAL AVIATION AIRCRAFT BY AIRCRAFT TYPE AND PRIMARY USE 1990

(Percent standard error is shown in parenthesis)

Aircraft Type	Total	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
Fixed-Wing—Total	**197,782**	**9,975**	**35,027**	**113,824**	**18,643**	**5,627**	**4,051**	**1,057**	**1,109**	**4,873**	**3,595**
	(0.5%)	**(3.9%)**	**(2.8%)**	**(1.1%)**	**(4.2%)**	**(3.8%)**	**(9.8%)**	**(16.9%)**	**(12.9%)**	**(7.4%)**	**(9.2%)**
Piston—Total	**187,773**	**3,933**	**33,863**	**113,429**	**18,603**	**5,402**	**4,011**	**1,041**	**643**	**3,853**	**2,995**
	(0.6%)	**(8.8%)**	**(2.9%)**	**(1.1%)**	**(4.2%)**	**(3.9%)**	**(9.9%)**	**(17.2%)**	**(19.4%)**	**(8.9%)**	**(10.6%)**
One Engine	165,073	1,412	25,615	106,868	17,686	5,152	3,779	951	303	928	2,380
	(0.6%)	(16.1%)	(3.4%)	(1.1%)	(4.4%)	(3.8%)	(10.4%)	(18.2%)	(27.0%)	(20.3%)	(12.3%)
Two Engine	22,606	2,521	8,248	6,559	915	234	228	90	284	2,925	603
	(1.3%)	(10.4%)	(5.1%)	(5.9%)	(17.1%)	(35.9%)	(32.8%)	(51.1%)	(32.8%)	(9.8%)	(19.5%)
Other Piston	94	0	0	3	3	16	4	0	56	0	12
	(30.0%)	(0.0%)	(0.0%)	(88.7%)	(88.7%)	(22.2%)	(229.6%)	(0.0%)	(29.5%)	(0.0%)	(116.0%)
Turboprop—Total	**5,634**	**2,838**	**825**	**280**	**36**	**225**	**23**	**16**	**466**	**647**	**279**
	(1.8%)	**(5.0%)**	**(13.6%)**	**(25.6%)**	**(69.0%)**	**(14.2%)**	**(84.1%)**	**(70.3%)**	**(15.1%)**	**(13.8%)**	**(23.2%)**
Two Engine	5,239	2,833	812	242	36	49	22	13	439	554	240
	(1.8%)	(5.0%)	(13.8%)	(29.0%)	(69.0%)	(63.8%)	(88.5%)	(78.8%)	(15.8%)	(16.1%)	(26.3%)
Other Turboprop	395	5	12	38	0	176	1	3	28	93	39
	(7.0%)	(64.2%)	(70.7%)	(37.2%)	(0.0%)	(3.9%)	(232.3%)	(147.7%)	(45.1%)	(6.5%)	(36.5%)
Turbojet—Total	**4,374**	**3,204**	**340**	**115**	**4**	**0**	**17**	**0**	**0**	**374**	**321**
	(2.0%)	**(3.3%)**	**(19.8%)**	**(37.0%)**	**(140.4%)**	**(0.0%)**	**(103.3%)**	**(0.0%)**	**(0.0%)**	**(19.4%)**	**(19.8%)**
Two Engine	3,950	2,938	329	113	1	0	17	0	0	343	209
	(2.0%)	(3.5%)	(20.3%)	(37.8%)	(372.1%)	(0.0%)	(103.3%)	(0.0%)	(0.0%)	(20.3%)	(26.8%)
Other Turbojet	425	266	11	3	3	0	0	0	0	31	112
	(8.2%)	(10.6%)	(78.8%)	(81.5%)	(81.5%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(67.9%)	(25.7%)
Rotorcraft—Total	**7,397**	**863**	**393**	**1,369**	**877**	**1,065**	**995**	**224**	**126**	**1,132**	**355**
	(3.0%)	**(17.4%)**	**(26.4%)**	**(10.2%)**	**(13.9%)**	**(12.6%)**	**(17.7%)**	**(29.0%)**	**(28.8%)**	**(15.1%)**	**(26.2%)**
Piston	3,459	45	133	1,174	798	723	412	65	2	0	108
	(5.3%)	(78.3%)	(32.5%)	(9.5%)	(13.8%)	(14.7%)	(26.0%)	(61.4%)	(165.3%)	(0.0%)	(56.6%)
Turbine	3,938	818	260	195	79	342	583	159	124	1,132	247
	(3.1%)	(17.9%)	(36.2%)	(43.6%)	(66.9%)	(24.1%)	(24.0%)	(32.2%)	(29.2%)	(15.1%)	(28.4%)
Other—Total	**7,032**	**45**	**55**	**5,459**	**367**	**0**	**256**	**245**	**7**	**190**	**406**
	(3.0%)	**(87.5%)**	**(54.2%)**	**(2.7%)**	**(17.8%)**	**(0.0%)**	**(25.9%)**	**(25.9%)**	**(179.5%)**	**(39.7%)**	**(20.0%)**
Total All Aircraft	**212,211**	**10,883**	**35,474**	**120,653**	**19,887**	**6,692**	**5,302**	**1,525**	**1,242**	**6,196**	**4,357**
	(0.5%)	**(3.9%)**	**(2.8%)**	**(1.0%)**	**(4.0%)**	**(3.8%)**	**(8.3%)**	**(13.2%)**	**(12.0%)**	**(6.6%)**	**(8.1%)**

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.2
ACTIVE GENERAL AVIATION AIRCRAFT
BY AIRCRAFT TYPE
1981-1990
(Percent Standard error is shown in parenthesis)

Aircraft Type	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Fixed-Wing—Total	**197,782**	**204,541**	**197,003**	**204,067**	**206,080**	**197,974**	**207,571**	**200,831**	**198,377**	**201,201**
	(0.5%)	(0.5%)	(0.6%)	(0.5%)	(0.5%)	(0.6%)	(0.5%)	(0.7%)	(0.6%)	(0.5%)
Piston—Total	**187,773**	**193,815**	**187,556**	**194,455**	**196,646**	**188,191**	**197,442**	**191,480**	**189,195**	**193,370**
	(0.6%)	(0.5%)	(0.6%)	(0.5%)	(0.6%)	(0.6%)	(0.5%)	(0.7%)	(0.6%)	(0.5%)
One Engine	165,073	170,370	164,760	171,035	171,777	164,385	171,922	166,247	164,173	167,898
	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.7%)	(0.5%)	(0.8%)	(0.7%)	(0.6%)
Two Engine	22,606	23,359	22,698	23,307	23,721	23,659	25,258	24,910	24,882	25,356
	(1.3%)	(1.2%)	(1.4%)	(1.3%)	(1.6%)	(1.5%)	(1.2%)	(1.4%)	(1.4%)	(1.2%)
Other Piston	94	86	99	112	148	148	262	143	140	114
	(30.0%)	(33.8%)	(21.7%)	(25.0%)	(24.3%)	(20.9%)	(13.4%)	(9.8%)	(17.1%)	(25.4%)
Turboprop—Total	**5,634**	**6,324**	**5,258**	**5,274**	**5,984**	**5,407**	**5,888**	**5,453**	**5,186**	**4,880**
	(1.8%)	(1.5%)	(1.7%)	(1.9%)	(1.9%)	(2.1%)	(1.0%)	(1.7%)	(1.2%)	(1.1%)
Two Engine	5,239	6,093	5,057	5,060	5,779	5,240	5,633	5,311	5,037	4,525
	(1.8%)	(1.5%)	(1.8%)	(1.9%)	(1.9%)	(2.1%)	(1.0%)	(1.6%)	(1.1%)	(1.1%)
Other Turboprop	395	230	202	214	185	167	176	142	149	134
	(7.0%)	(14.2%)	(7.1%)	(8.9%)	(16.2%)	(7.8%)	(8.5%)	(26.8%)	(18.8%)	(3.7%)
Turbojet—Total	**4,374**	**4,402**	**4,187**	**4,338**	**4,490**	**4,375**	**4,320**	**3,898**	**3,986**	**3,171**
	(2.0%)	(1.5%)	(2.0%)	(1.5%)	(2.2%)	(1.7%)	(1.6%)	(3.3%)	(2.8%)	(2.3%)
Two Engine	3,950	4,004	3,821	3,900	4,037	3,914	3,780	3,447	3,309	2,808
	(2.0%)	(1.4%)	(2.1%)	(1.6%)	(1.6%)	(1.7%)	(1.3%)	(2.7%)	(2.5%)	(2.4%)
Other Turbojet	425	398	367	438	444	460	540	451	687	362
	(8.2%)	(8.2%)	(5.5%)	(5.0%)	(16.2%)	(7.2%)	(26.9%)	(20.2%)	(10.6%)	(6.4%)
Rotorcraft—Total	**7,397**	**7,475**	**6,408**	**6,333**	**6,943**	**6,418**	**7,086**	**6,540**	**6,169**	**6,974**
	(3.0%)	(0.6%)	(3.6%)	(3.2%)	(3.1%)	(4.0%)	(3.1%)	(3.7%)	(3.7%)	(2.7%)
Piston	3,459	3,244	2,584	2,813	2,921	2,877	2,936	2,541	2,419	3,250
	(5.3%)	(1.2%)	(7.9%)	(5.0%)	(6.0%)	(7.0%)	(6.3%)	(7.5%)	(7.4%)	(5.3%)
Turbine	3,938	4,232	3,822	3,520	4,022	3,541	4,160	3,998	3,749	3,724
	(3.1%)	(0.4%)	(2.7%)	(4.2%)	(3.1%)	(4.5%)	(2.8%)	(3.8%)	(3.7%)	(2.0%)
Other—Total	**7,032**	**7,721**	**6,857**	**6,783**	**7,010**	**6,263**	**6,275**	**5,923**	**5,233**	**5,049**
	(3.0%)	(2.4%)	(4.1%)	(3.4%)	(3.0%)	(3.3%)	(2.7%)	(3.5%)	(4.0%)	(3.5%)
Total All Aircraft	**212,211**	**219,737**	**210,266**	**217,183**	**220,044**	**210,654**	**220,943**	**213,293**	**209,779**	**213,226**
	(0.5%)	(0.5%)	(0.5%)	(0.5%)	(0.5%)	(0.6%)	(0.5%)	(0.6%)	(0.6%)	(0.5%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.3
ACTIVE GENERAL AVIATION AIRCRAFT TOTAL HOURS FLOWN, BY AIRCRAFT TYPE AND PRIMARY USE
1990
(Percent standard error is shown is parenthesis)

Aircraft Type	Total	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
Fixed-Wing—Total	**31,995,360**	**2,913,995**	**4,727,587**	**9,739,379**	**7,407,607**	**1,738,923**	**1,443,972**	**433,401**	**1,350,362**	**1,833,794**	**406,347**
	(1.8%)	**(4.7%)**	**(3.7%)**	**(2.4%)**	**(5.9%)**	**(5.5%)**	**(12.8%)**	**(16.1%)**	**(12.2%)**	**(8.4%)**	**(11.8%)**
Piston—Total	**27,972,818**	**840,875**	**4,452,678**	**9,675,223**	**7,402,353**	**1,646,864**	**1,433,800**	**421,895**	**462,465**	**1,378,809**	**258,657**
	(11.1%)	**(3.8%)**	**(2.5%)**	**(5.9%)**	**(5.7%)**	**(12.8%)**	**(18.5%)**	**(17.5%)**	**(10.2%)**	**(15.0%)**	**(2.0%)**
One Engine	23,696,580	234,840	3,209,564	9,001,232	7,061,390	1,590,601	1,372,114	406,403	242,447	368,339	209,654
	(2.2%)	(18.1%)	(4.4%)	(2.6%)	(6.2%)	(5.7%)	(13.3%)	(19.1%)	(26.3%)	(21.6%)	(16.5%)
Two Engine	4,219,527	606,034	1,243,114	673,963	340,901	54,670	61,062	15,292	166,124	1,010,269	48,096
	(3.8%)	(14.0%)	(7.5%)	(8.8%)	(18.6%)	(34.3%)	(30.1%)	(54.4%)	(23.9%)	(11.7%)	(37.5%)
Other Piston	56,706	0	0	26	62	1,393	425	0	53,894	0	906
	(48.8%)	(0.0%)	(0.0%)	(88.7%)	(88.7%)	(40.2%)	(231.6%)	(0.0%)	(34.1%)	(0.0%)	(109.2%)
Turboprop—Total	**2,510,988**	**945,066**	**178,352**	**41,782**	**4,387**	**92,259**	**7,539**	**11,706**	**887,897**	**307,819**	**34,182**
	(6.4%)	**(6.0%)**	**(15.6%)**	**(25.2%)**	**(65.7%)**	**(19.0%)**	**(87.9%)**	**(48.6%)**	**(15.7%)**	**(14.4%)**	**(38.2%)**
Two Engine	2,340,738	942,919	173,156	39,184	4,387	12,801	7,166	11,196	868,954	252,908	28,069
	(6.8%)	(6.1%)	(15.7%)	(26.2%)	(65.7%)	(63.8%)	(93.0%)	(62.3%)	(16.5%)	(16.6%)	(46.5%)
Other Turboprop	170,250	2,147	5,196	2,598	0	79,458	372	510	18,943	54,911	6,113
	(10.9%)	(73.8%)	(82.3%)	(42.0%)	(0.0%)	(16.3%)	(232.3%)	(147.7%)	(48.8%)	(9.6%)	(44.0%)
Turbojet—Total	**1,511,560**	**1,128,055**	**96,557**	**22,374**	**867**	**0**	**2,833**	**0**	**0**	**147,365**	**113,508**
	(4.1%)	**(5.0%)**	**(20.3%)**	**(39.6%)**	**(135.1%)**	**(0.0%)**	**(103.3%)**	**(0.0%)**	**(0.0%)**	**(20.2%)**	**(22.9%)**
Two Engine	1,384,788	1,024,547	91,163	22,369	771	0	2,833	0	0	135,085	108,019
	(4.3%)	(5.3%)	(20.9%)	(40.5%)	(372.1%)	(0.0%)	(103.3%)	(0.0%)	(0.0%)	(21.2%)	(32.0%)
Other Turbojet	126,772	103,507	5,394	5	96	0	0	0	0	12,280	5,489
	(12.2%)	(12.9%)	(79.2%)	(81.5%)	(81.5%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(67.9%)	(38.4%)
Rotorcraft—Total	**2,392,066**	**226,783**	**46,592**	**80,997**	**397,002**	**290,003**	**416,185**	**163,610**	**93,666**	**593,753**	**83,444**
	(5.9%)	**(21.5%)**	**(28.7%)**	**(17.5%)**	**(18.6%)**	**(14.2%)**	**(19.2%)**	**(34.9%)**	**(35.7%)**	**(17.6%)**	**(32.6%)**
Piston	774,774	11,715	21,822	45,420	376,151	165,638	129,040	7,718	190	0	17,081
	(10.2%)	(85.6%)	(37.4%)	(17.9%)	(18.9%)	(17.6%)	(29.6%)	(64.6%)	(165.3%)	(0.0%)	(64.2%)
Turbine	1,617,292	215,068	24,770	35,578	20,851	124,365	287,145	155,892	93,506	593,753	66,362
	(7.2%)	(22.2%)	(38.7%)	(56.5%)	(71.3%)	(25.3%)	(25.8%)	(39.0%)	(36.0%)	(17.6%)	(38.2%)
Other—Total	**368,803**	**4,817**	**4,464**	**229,053**	**42,289**	**0**	**30,526**	**22,443**	**360**	**10,722**	**24,130**
	(7.0%)	**(87.5%)**	**(81.8%)**	**(5.9%)**	**(22.6%)**	**(0.0%)**	**(45.5%)**	**(36.9%)**	**(179.5%)**	**(43.6%)**	**(24.9%)**
Total All Aircraft	**34,756,228**	**3,145,595**	**4,778,643**	**10,049,429**	**7,846,899**	**2,028,927**	**1,890,682**	**619,454**	**1,444,419**	**2,436,268**	**513,920**
	(1.7%)	**(4.7%)**	**(3.6%)**	**(2.4%)**	**(5.7%)**	**(5.2%)**	**(10.6%)**	**(14.2%)**	**(11.5%)**	**(7.4%)**	**(10.3%)**

TABLE 8.4
ACTIVE GENERAL AVIATION AIRCRAFT
TOTAL HOURS FLOWN, BY AIRCRAFT TYPE
1981–1990

(Hours in Thousands)

(Percent Standard Error is shown in parenthesis)

Aircraft Type	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Fixed-Wing —Total	**31,995**	**31,758**	**30,274**	**30,744**	**31,397**	**31,495**	**33,265**	**32,558**	**33,728**	**37,628**
	(1.8%)	**(1.7%)**	**(1.8%)**	**(1.7%)**	**(1.7%)**	**(1.7%)**	**(2.1%)**	**(2.1%)**	**(1.9%)**	**(1.7%)**
Piston—Total	**27,973**	**26,971**	**26,226**	**27,039**	**26,861**	**27,793**	**29,194**	**28,911**	**29,950**	**34,086**
	(2.0%)	**(1.9%)**	**(2.0%)**	**(1.9%)**	**(1.9%)**	**(1.9%)**	**(1.8%)**	**(2.3%)**	**(2.2%)**	**(1.8%)**
One Engine	23,697	22,307	21,946	22,141	21,939	22,851	23,506	23,149	24,259	27,692
	(2.2%)	(2.2%)	(2.2%)	(2.0%)	(2.1%)	(2.1%)	(2.1%)	(2.6%)	(2.5%)	(2.1%)
Two Engine	4,220	4,648	4,257	4,883	4,911	4,915	5,585	5,730	5,657	6,369
	(3.8%)	(3.3%)	(4.1%)	(5.2%)	(4.6%)	(4.1%)	(3.6%)	(5.3%)	(4.7%)	(3.3%)
Other Piston	57	17	22	15	11	26	102	32	33	25
	(48.7%)	(67.3%)	(44.5%)	(33.3%)	(45.5%)	(34.6%)	(29.4%)	(31.2%)	(30.3%)	(24.0%)
Turboprop—Total	**2,511**	**3,132**	**2,370**	**2,177**	**2,882**	**2,080**	**2,506**	**2,173**	**2,168**	**2,155**
	(6.4%)	**(5.0%)**	**(5.0%)**	**(5.0%)**	**(5.1%)**	**(4.6%)**	**(4.7%)**	**(7.1%)**	**(6.7%)**	**(3.8%)**
Two Engine	2,341	3,006	2,286	1,994	2,797	2,016	2,452	2,090	2,096	2,092
	(6.8%)	(5.2%)	(5.1%)	(5.0%)	(5.3%)	(4.8%)	(4.7%)	(7.2%)	(6.8%)	(3.9%)
Other Turboprop	170	126	84	183	85	64	54	83	71	63
	(10.9%)	(16.6%)	(14.9%)	(24.6%)	(14.1%)	(10.9%)	(25.9%)	(37.3%)	(28.2%)	(17.5%)
Turbojet—Total	**1,512**	**1,654**	**1,678**	**1,528**	**1,654**	**1,622**	**1,566**	**1,473**	**1,611**	**1,387**
	(4.1%)	**(3.7%)**	**(4.4%)**	**(3.9%)**	**(4.7%)**	**(4.4%)**	**(4.7%)**	**(6.6%)**	**(6.8%)**	**(3.6%)**
Two Engine	1,385	1,542	1,548	1,421	1,566	1,461	1,328	1,350	1,347	1,238
	(4.3%)	(3.9%)	(4.7%)	(4.2%)	(4.9%)	(4.8%)	(5.0%)	(6.8%)	(7.3%)	(3.9%)
Other Turbojet	127	112	130	107	98	161	237	124	264	149
	(12.2%)	(12.2%)	(10.9%)	(10.3%)	(19.4%)	(10.6%)	(13.9%)	(25.0%)	(17.4%)	(10.7%)
Rotorcraft—Total	**2,392**	**2,826**	**2,707**	**2,283**	**2,625**	**2,155**	**2,495**	**2,271**	**2,350**	**2,685**
	(5.9%)	**(0.9%)**	**(6.5%)**	**(7.4%)**	**(6.7%)**	**(7.7%)**	**(5.5%)**	**(7.0%)**	**(6.6%)**	**(6.9%)**
Piston	775	749	576	652	804	564	592	572	579	930
	(10.2%)	(2.1%)	(11.6%)	(9.2%)	(12.8%)	(15.1%)	(11.3%)	(8.6%)	(10.0%)	(11.6%)
Turbine	1,617	2,077	2,131	1,631	1,821	1,590	1,903	1,700	1,771	1,754
	(7.2%)	(0.9%)	(7.6%)	(9.6%)	(7.7%)	(8.9%)	(6.4%)	(8.9%)	(8.2%)	(8.6%)
Other—Total	**369**	**429**	**613**	**416**	**394**	**414**	**358**	**420**	**379**	**391**
	(7.0%)	**(7.4%)**	**(24.2%)**	**(6.0%)**	**(7.6%)**	**(8.2%)**	**(6.7%)**	**(11.7%)**	**(10.6%)**	**(8.7%)**
Total All Aircraft	**34,756**	**35,012**	**33,593**	**33,443**	**34,416**	**34,063**	**36,119**	**35,249**	**36,457**	**40,704**
	(1.7%)	**(1.6%)**	**(1.7%)**	**(1.7%)**	**(1.6%)**	**(1.6%)**	**(1.6%)**	**(2.0%)**	**(1.9%)**	**(1.6%)**

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.5
ACTIVE GENERAL AVIATION AIRCRAFT
AVERAGE HOURS FLOWN, BY AIRCRAFT TYPE
1981–1990
(Percent Standard error is shown in parenthesis)

Aircraft Type	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Fixed-Wing —Total	**157.8**	**150.1**	**148.0**	**145.6**	**145.1**	**155.5**	**156.0**	**160.9**	**170.6**	**184.4**
	(1.8%)	**(1.7%)**	**(1.8%)**	**(1.7%)**	**(1.7%)**	**(1.7%)**	**(1.7%)**	**(2.1%)**	**(2.0%)**	**(1.7%)**
Piston—Total	**147.9**	**137.9**	**138.2**	**136.9**	**135.4**	**147.1**	**147.1**	**150.6**	**159.8**	**175.4**
	(1.9%)	**(1.9%)**	**(1.9%)**	**(1.8%)**	**(1.8%)**	**(1.8%)**	**(1.8%)**	**(2.3%)**	**(2.1%)**	**(1.8%)**
One Engine	143.6	131.0	133.0	129.0	127.0	139.0	137.0	139.0	149.0	165.0
	(2.2%)	(2.2%)	(2.2%)	(2.0%)	(2.0%)	(2.0%)	(2.0%)	(2.5%)	(2.4%)	(2.1%)
Two Engine	182.3	195.0	181.0	202.0	204.0	207.0	218.0	230.0	230.0	251.0
	(3.8%)	(3.1%)	(3.5%)	(5.1%)	(4.4%)	(3.8%)	(3.2%)	(5.2%)	(4.6%)	(3.1%)
Other Piston	623.0	133.0	225.0	140.0	111.0	184.0	433.0	240.0	246.0	197.0
	(30.6%)	(24.9%)	(42.2%)	(22.7%)	(45.4%)	(27.0%)	(24.8%)	(13.4%)	(15.9%)	(1.8%)
Turboprop—Total	**425.6**	**471.3**	**447.9**	**388.9**	**422.9**	**362.0**	**414.2**	**389.4**	**396.3**	**470.1**
	(4.4%)	**(4.3%)**	**(4.5%)**	**(4.7%)**	**(4.5%)**	**(4.2%)**	**(4.4%)**	**(6.3%)**	**(6.4%)**	**(3.8%)**
Two Engine	424.0	467.0	450.0	374.0	420.0	360.0	416.0	386.0	394.0	469.0
	(4.7%)	(4.4%)	(4.6%)	(4.7%)	(4.6%)	(4.4%)	(4.5%)	(6.5%)	(6.6%)	(3.9%)
Other Turboprop	445.8	568.0	392.0	839.0	498.0	396.0	339.0	578.0	473.0	498.0
	(8.3%)	(13.7%)	(16.7%)	(24.5%)	(13.8%)	(6.0%)	(17.2%)	(22.7%)	(17.8%)	(185.0%)
Turbojet—Total	**352.6**	**375.1**	**405.0**	**356.2**	**353.8**	**368.7**	**353.6**	**382.2**	**404.0**	**436.3**
	(3.7%)	**(3.4%)**	**(3.8%)**	**(3.6%)**	**(4.8%)**	**(4.0%)**	**(4.0%)**	**(5.9%)**	**(6.2%)**	**(2.9%)**
Two Engine	358.9	384.0	412.0	371.0	385.0	374.0	348.0	391.0	407.0	422.0
	(4.0%)	(3.6%)	(4.1%)	(3.8%)	(4.8%)	(4.4%)	(4.1%)	(6.2%)	(6.8%)	(3.2%)
Other Turbojet	292.9	274.0	346.0	229.0	153.0	325.0	392.0	273.0	385.0	376.0
	(10.8%)	(11.5%)	(10.4%)	(9.6%)	(28.0%)	(5.8%)	(14.7%)	(14.7%)	(13.5%)	(6.0%)
Rotorcraft—Total	**320.7**	**390.2**	**423.3**	**359.3**	**390.2**	**336.1**	**343.6**	**350.2**	**383.2**	**390.8**
	(5.5%)	**(0.8%)**	**(6.2%)**	**(7.0%)**	**(6.3%)**	**(6.8%)**	**(5.4%)**	**(6.3%)**	**(5.7%)**	**(6.7%)**
Piston	216.4	235.0	227.0	228.0	273.0	191.0	186.0	221.0	236.0	285.0
	(8.9%)	(1.9%)	(9.0%)	(7.8%)	(11.1%)	(12.8%)	(9.7%)	(6.8%)	(8.0%)	(10.3%)
Turbine	424.9	496.0	576.0	485.0	459.0	460.0	468.0	431.0	474.0	489.0
	(6.9%)	(8.0%)	(7.6%)	(9.5%)	(7.6%)	(8.0%)	(6.4%)	(8.0%)	(7.1%)	(8.7%)
Other—Total	**52.2**	**55.6**	**95.2**	**62.0**	**56.2**	**67.1**	**56.5**	**71.1**	**72.4**	**78.4**
	(6.8%)	**(7.5%)**	**(25.1%)**	**(5.5%)**	**(7.5%)**	**(7.8%)**	**(6.4%)**	**(11.3%)**	**(9.9%)**	**(8.0%)**
Total All Aircraft	**159.2**	**154.5**	**153.6**	**148.4**	**148.9**	**158.2**	**158.1**	**164.0**	**174.0**	**188.1**
	(1.7%)	**(1.6%)**	**(1.7%)**	**(1.6%)**	**(1.6%)**	**(1.6%)**	**(1.6%)**	**(2.0%)**	**(1.9%)**	**(1.6%)**

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.6
ACTIVE GENERAL AVIATION AIRCRAFT AND HOURS FLOWN BY FAA REGION AND STATE OF BASED AIRCRAFT
1990

FAA Region & State	Active Aircraft		Hours Flown	
	Aircraft	Standard Error	Hours(000)	Standard Error
Total	**212,211**	**0.5%**	**34,623**	**1.6%**
Alaskan—Total	**7,011**	**6.4%**	**1,055**	**8.7%**
Central—Total	**11,778**	**5.4%**	**1,537**	**7.1%**
Iowa	2,681	11.6%	276	16.0%
Kansas	3,347	10.4%	461	12.7%
Missouri	3,893	9.7%	541	12.6%
Nebraska	1,857	13.6%	259	17.5%
Eastern—Total	**24,690**	**3.6%**	**3,713**	**5.3%**
Delaware	1,326	16.5%	233	22.7%
District of Columbia	12	106.3%	1	137.0%
Maryland	2,947	11.4%	385	14.6%
New Jersey	3,858	9.6%	459	10.8%
New York	6,275	7.6%	1,064	11.2%
Pennsylvania	6,072	7.7%	845	10.1%
Virginia	3,175	10.8%	615	14.5%
West Virginia	1,016	19.7%	112	23.5%
Great Lakes—Total	**37,321**	**2.9%**	**5,396**	**4.4%**
Illinois	6,781	7.3%	1,207	8.9%
Indiana	3,899	9.8%	544	15.9%
Michigan	7,463	7.0%	892	8.5%
Minnesota	4,882	8.6%	704	10.7%
North Dakota	1,645	15.0%	377	29.2%
Ohio	7,504	7.0%	964	8.4%
South Dakota	1,056	18.2%	222	31.4%
Wisconsin	4,091	9.6%	488	12.1%
New England—Total	**8,717**	**6.4%**	**1,196**	**8.4%**
Connecticut	1,919	13.9%	323	18.0%
Maine	1,721	15.2%	255	20.4%
Massachusetts	3,025	11.2%	411	12.4%
New Hampshire	1,172	17.1%	108	23.0%
Rhode Island	342	33.0%	42	36.2%
Vermont	538	25.7%	55	40.6%
Northwest Mountain-Total	**21,793**	**3.9%**	**3,403**	**6.1%**
Colorado	4,453	9.1%	783	12.1%
Idaho	1,829	14.3%	296	19.8%
Montana	1,834	14.2%	231	26.3%
Oregon	5,010	8.6%	752	13.2%
Utah	1,348	16.7%	375	26.5%
Washington	6,521	7.5%	853	9.3%
Wyoming	797	21.3%	112	28.7%
Southern-Total	**35,201**	**3.0%**	**6,220**	**4.1%**
Alabama	3,350	10.5%	575	13.3%
Florida	13,298	5.2%	2,490	6.2%
Georgia	4,479	9.0%	799	11.6%
Kentucky	1,554	15.6%	251	20.6%
Mississippi	1,842	14.2%	338	17.9%
North Carolina	4,807	8.8%	710	10.9%
Puerto Rico	412	29.6%	147	30.5%
South Carolina	2,094	13.2%	276	16.8%
Tennessee	3,267	10.4%	576	15.2%
Southwest—Total	**26,338**	**3.3%**	**5,127**	**4.6%**
Arkansas	2,509	12.0%	429	14.1%
Louisiana	3,392	10.3%	1,073	12.4%
New Mexico	1,962	13.2%	289	22.7%
Oklahoma	3,821	9.9%	611	13.3%
Texas	16,655	4.5%	2,725	5.7%
Western-Pacific-Total	**37,363**	**2.8%**	**6,936**	**4.2%**
Arizona	5,488	8.1%	899	11.6%
California	29,325	3.3%	5,357	4.5%
Hawaii	561	25.1%	276	31.5%
Nevada	1,990	13.2%	403	20.3%

NOTE: Column totals may differ from printed totals due to estimation procedures.

IX. AIRCRAFT ACCIDENTS

The data presented in this chapter were obtained from the National Transportation Safety Board.

The Safety Board's statistics categorize aviation accidents according to the Federal Air Regulations under which the accident flights were made. The groupings are:

- Large airlines in scheduled and nonscheduled service under Part 121 of the regulations
- Commuter carriers in scheduled service under Part 135
- "On-demand" air taxis in unscheduled operations under Part 135, and
- General aviation—all other civil flying.

See Glossary under "Aircraft Accident: for NTSB definitions for the following terms: "Fatal Injury", "Operator", "Serious Injury", and "Substantial Damage".

More detailed accident data may be obtained from the National Transportation Safety Board.

TABLE 9.1
AIR CARRIER and GENERAL AVIATION
AIRCRAFT ACCIDENTS AND FATALITIES
(Preliminary Data)
1990

Air Carrier and General Aviation Operations	Number of Accidents		Number of Fatalities
	Total	Fatal	
Air Carriers			
Air Carriers Operating Under 14CFR 121 [1]			
Scheduled	24	6	39
Nonscheduled	2	0	0
Air Carriers Operating under 14 CFR 135			
Scheduled [2]	14	2	4
Nonscheduled [3]	104	26	40
General Aviation [4]	2,138	424	736

[1] Airlines.
[2] Commuters.
[3] On-Demand Air Taxis.
[4] Includes accidents involving aircraft flown under rules other than 14 CFR 121 and 14 CFR 135.

Source: National Transportation Safety Board.

TABLE 9.2
AIRLINES
(Air Carriers Operating under 14 CFR 121)
ACCIDENTS, FATATITIES, AND RATES
(Preliminary Data)
1990

	Scheduled	Non-scheduled
Accidents		
Total	24	2
Fatal	6	0
Fatalities	39	0
Aircraft Hours Flown (000) [1]	10,800	670
Departures (000) [1]	7,259	383
Accident Rate Per 100,000 Hours Flown		
Total	0.22	0.30
Fatal	0.06	0.00
Accident Rate Per 100,000 Departures		
Total	0.33	0.52
Fatal	0.06	0.00

[1] Exposure data estimate source: Research and Special Programs Administration and FAA.

Source: National Transportation Safety Board.

TABLE 9.3
AIRLINES
(Air Carriers Operating under 14 CFR 121)
FATAL ACCIDENTS, FATALITIES
(Preliminary Data)
1990

Location	Operator	Date	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passenger	Crew	Others		
SCHEDULED SERVICE										
Total					**39**	**8**	**4**	**27**	**500**	
Atlanta, GA	Eastern	18-Jan	Pagr.	B-727	1	0	0	1	158	Runway collision with a general aviation aircraft during landing.
Indianapolis, IN	Federal Express	31-Jan	Cargo	B-727	1	0	0	1	3	Ground employee fatally injured while attempting to tow aircraft.
Phoenix, AZ	Alaska Airlines	13-Mar	Pagr	B-727	1	0	0	1	41	Aircraft struck pedestrain on runway during takeoff.
Guatemala City,	Translados	5-May	Cargo	DC-6	27	0	3	24	3	Crashed into a residential Guatemala neighborhood just after takeoff.
Atlantic Ocean	Eastern	3-Oct	Pagr	DC-9	1	1	0	0	97	Passenger died as result of injuries received during in-flight encounter with turbulence.
Detroit, MI	Northwest Airlines	3-Dec	Pagr	DC-9	8	7	1	0	42	Runway collision in fog. One aircraft taking off amd one taxiing.
	Northwest Airlines	3-Dec	Pagr	B-727	0	0	0	0	156	
NONSCHEDULED SERVICE										
NONE										

Source: National Transportation Safety Board.

TABLE 9.4
AIRLINES: SCHEDULED AND NONSCHEDULED SERVICE [5]
ACCIDENTS, FATALITIES AND RATES
(U.S. Air Carriers Operating Under 14 CFR 121)
1981–1990

	1981	1982	1983	1984	1985	1986	1987	1988	1989 [3]	1990 [4]
Accidents										
Total	26	20	24	17	22	24 [3]	36	29 [3]	30	26
Fatal	4	5	4	1	7	3 [3]	5	3	11	6
Total Fatalities	4	235	15	4	526	8 [3]	232	285	278	39
Aircraft Hours Flown (000)1	7,126	7,040	7,299	8,165	8,710	9,974 [3]	10,589 [3]	11,142 [3]	11,251	11,470
Aircraft Miles Flown (000,000)1	2,921	2,939	3,069	3,428	3,631	4,063 [3]	4,345 [3]	4,504 [3]	4,603	4,649
Departures (000)1	5,575	5,351	5,444	5,899	6,307	7,226 [3]	7,558 [3]	7,622 [3]	7,641	7,642
Accident Rate Per 100,000 Hours Flown										
Total	0.36	0.27	0.33	0.21	0.25	0.23 [3]	0.33	0.25 [3]	0.27	0.23
Fatal	0.06	0.06	0.06	0.01	0.08	0.02 [3]	0.04	0.02	0.10	0.05
Accident Rate Per Million Miles Flown										
Total	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fatal	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2	0.00 /2
Accident Rate Per 100,000 Departures										
Total	0.47	0.36	0.44	0.29 [3]	0.35	0.32 [3]	0.46 [3]	0.37 [3]	0.39	0.34
Fatal	0.07	0.08	0.07	0.02	0.11	0.03 [3]	0.05	0.03	0.14	0.06

[5] Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board
[1]Exposure data estimate source: Research and Special Programs Administration.
[2]Rounds to 0.00.
[3]Revised.
[4]Preliminary.
NOTE: The following suicide/sabotage cases are included in Accidents and Fatalities but not in Accident Rates:

Date	Location	Operator	Total	Aboard
8/11/82	Honolulu, HI	Pan American	1	1
4/2/86	Near Athens, Greece	Trans World	4	4
12/7/87	San Louis Obispo, CA	Pacific Southwest	43	43
12/21/88	Lockerbie, Scotland	Pan American	270	259

TABLE 9.5
AIRLINES: SCHEDULED SERVICE [5]
ACCIDENTS, FATALITIES AND RATES
(U.S. Air Carriers Operating Under 14 CFR 121)
1981–1990

	1981	1982	1983	1984	1985	1986	1987	1988	1989 [3]	1990 [4]
Accidents										
Total	25	16	22	13	17	21 [3]	32	28 [3]	25	24
Fatal	4	4	4	1	4	2 [3]	4	3	8	6
Total Fatalities	4	234	15	4	197	5 [3]	231	285	131	39
Aircraft Hours Flown (000) [1]	6,834	6,698	6,915	7,736	8,265	9,499 [3]	10,065 [3]	10,520 [3]	10,584	10,800
Aircraft Miles Flown (000,000) [1]	2,811	2,807	2,921	3,259	3,453	3,876 [3]	4,111 [3]1	4,260 [3]	4,337	4,382
Departures (000) [1]	5,420	5,162	5,235	5,666	6,069	6,955 [3]	7,251 [3]	7,255 [3]	7,259	7,259
Accident Rate Per 100,000 Hours Flown										
Total	0.37	0.22	0.32	0.17	0.21	0.21 [3]	0.31	0.26 [3]	0.24	0.22
Fatal	0.06	0.04	0.06	0.01	0.05	0.01 [3]	0.03	0.02	0.08	0.06
Accident Rate Per Million Miles Flown										
Total	0.01	0.01	0.01	0.00 [2]	0.00 [2]	0.00 [2]	0.01	0.01	0.01	0.01
Fatal	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]	0.00 [2]
Accident Rate Per 100,000 Departures										
Total	0.46	0.29	0.42	0.23	0.28	0.29 [3]	0.43	0.37 [3]	0.34	0.33
Fatal	0.07	0.06	0.08	0.02	0.07	0.01 [3]	0.04	0.03	0.11	0.08

[5]Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

[1]Exposure data estimate source: Research and Special Programs Administration.

[2] Rounds to 0.00.

[3]Revised.

[4]Preliminary.

NOTE: The following suicide/sabotage cases are included in Accidents and Fatalities but not in Accident Rates:

Date	Location	Operator	Total	Aboard
8/11/82	Honolulu, HI	Pan American	1	1
4/2/86	Near Athens, Greece	Trans World	4	4
12/7/87	San Louis Obispo, CA	Pacific Southwest	43	43
12/21/88	Lockerbie, Scotland	Pan American	270	59

TABLE 9.6
AIRLINES: NONSCHEDULED SERVICE [5]
ACCIDENTS, FATATITIES AND RATES
(U.S. Air Carriers Operating Under 14 CFR 121)
1980–1989

	1981	1982	1983	1984	1985	1986	1987	1988	1989 [3]	1990 [4]
Accidents										
Total	1	4	2	4	5	3	4	1	5	2
Fatal	0	1	0	0	3	1	1	0	3	0
Total Fatalities	0	1	0	0	329	3	1	0	147	0
Aircraft Hours Flown (000)1	292	343	384	429	445	475 [3]	524 [3]	621 [3]	667	670
Aircraft Miles Flown (000,000)1	109	132	148	169	178	188 [3]	233 [3]	244 [3]	266	267
Departures (000)1	155	189	209	233	238	271	307 [3]	367 [3]	382	383
Accident Rate Per 100,000 Hours Flown										
Total	0.34	1.17	0.52	0.93	1.12	0.63 [3]	0.76 [3]	0.16 [3]	0.75	0.30
Fatal	0.00	0.29	0.00	0.00	0.68	0.21	0.19	0.00	0.45	0.00
Accident Rate Per Million Miles Flown										
Total	0.01	0.03	0.01	0.02	0.03	0.02	0.02	0.00 /2	0.02	0.01
Fatal	0.00	0.01	0.00	0.00	0.02	0.00 /2	0.00 /2	0.00	0.01	0.00
Accident Rate Per 100,000 Departures										
Total	0.65	2.12	0.96	1.72	2.10	1.11 [3]	1.30 [3]	0.27 [3]	1.31	0.52
Fatal	0.00	0.53	0.00	0.00	1.26	0.37	0.33	0.00	0.79	0.00

[5]Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during nonscheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

[1]Exposure data estimate source: Research and Special Programs Administration.
[2] Rounds to 0.00.
[3] Revised.
[4]Preliminary.

TABLE 9.7
COMMUTER AIR CARRIERS
(Air Carriers Operating under 14 CFR 135)
FATAL ACCIDENTS, FATALITIES
(Preliminary Data)
1990

Location	Operation	Date	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passen-ger	Crew	Others		
Total					4	3	1	0	11	
Cold Bay, Ak	Penair	17-Feb	Pegr	PA-31	1	0	1	0	1	Collided with terrain
Kaltag, AK	Frontier Flying	3-Sep	Pegr	PA-31	3	3	0	0	10	Collided with terrain following loss of power.

Source: National Transportation Safety Board

TABLE 9.8
COMMUTER AIR CARRIERS
(U.S. Air Carriers Operating under 14 CFR 135) [5]
AIRCRAFT ACCIDENTS, FATALITIES, AND RATES
1981–1990

	1981	1982	1983	1984	1985	1986	1987	1988	1989 [3]	1990 [4]
Accidents										
Total	31	26	17	22	21	15	32	19	17	14
Fatal	9	5	2	7	7	2	10	2	5	2
Fatalities	34	14	11	48	37	4	59	21	31	4
Aircraft Hours Flown (000) [1]	1,241	1,300	1,511	1,746	1,737	1,723	1,928 [3]	2,085 [3]	2,226	2,229
Aircraft Miles Flown (000,000) [1]	193	222	254	291	301	308	347 [3]	379 [3]	392	392
Departures (000)1	1,835	2,027	2,328	2,677	2,561	2,728 [3]	2,781 [3]	2,899 [3]	2,908	2,900
Accident Rate Per 100,000 Hours Flown [2]										
Total	2.50	2.00	1.12	1.26	1.21	0.87	1.66 [3]	0.91 [3]	0.76	0.63
Fatal	0.72	0.38	0.13	0.40	0.40	0.12	0.52 [3]	0.10	0.22	0.09
Accident Rate Per Million Miles Flown [2]										
Total	0.16	0.12	0.07	0.08	0.07	0.05	0.09	0.05	0.04	0.04
Fatal	0.05	0.02	0.01	0.02	0.02	0.01	0.03	0.01	0.01	0.01
Accident Rate Per 100,000 Departures [2]										
Total	1.69	1.28	0.73	0.82	0.82	0.55	1.15 [3]	0.65	0.59	0.48
Fatal	0.49	0.25	0.09	0.26	0.27	0.07	0.36 [3]	0.07	0.17	0.07

[5]Includes accidents involving all-cargo air carriers when those accidents occurred during scheduled 14 CFR 135 operations. All-cargo air carriers no longer meet the RSPA definition for Commuters. May also include accidents involving carriers whose FAA operating specifications permit scheduled revenue operations under 14 CFR 135, but who have not received a RSPA fitness determination.

Source: National Transportation Safety Board.

[1]Exposure data estimates from Research and Special Programs Administration (RSPA).

[2] Rates are based on all accidents including some involving operators not reporting traffic data to the RSPA.

[3] Preliminary.

[4] Revised.

TABLE 9.9
ON-DEMAND AIR TAXIS
(U.S. Air Carriers Operating under 14 CFR 135)
AIRCRAFT ACCIDENTS, FATALITIES, AND RATES
1981–1990

Year	Number Of Accidents		Total Fatalities	Aircraft Hours Flown (000) [1]	Accident Rate Per 100,000 Aircraft Hours	
	Total	Fatal			Total Accidents	Fatal Accidents
1981	157	40	94	2,896	5.42	1.38
1982	132	31	72	3,257	4.05	0.95
1983	141	27	62	2,575	5.48	1.05
1984	146	23	52	3,079	4.74	0.75
1985	152	35	76	2,783	5.46	1.26
1986	116	31	65	2,913	3.98	1.06
1987	97 [2]	30	65	2,877	3.37 [2]	1.04
1988	96 [2]	27	58	2,841	3.38 [2]	0.95
1989 [2]	113	26	88	3,129	3.61	0.83
1990 [3]	104	26	40	3,170	3.28	0.82

Source: National Transportation Safety Board.

[1] Exposure data estimate from FAA.
[2] Revised
[3] Preliminary

TABLE 9.10
U.S. GENERAL AVIATION FLYING
(All Operations other than those Operating under 14 CFR 121 or 14 CFR 135)
AIRCRAFT ACCIDENTS, FATALITIES, AND RATES
1981–1990

Year	Number Of Accidents		Total Fatalities	Aircraft Hours Flown (000) [1]	Accident Rate Per 100,000 Aircraft Hours [a]	
	Total	Fatal			Total Accidents	Fatal Accidents
1981	3,500	654	1,282	36,803	9.51	1.78
1982	3,233	591	1,187	32,095	10.06	1.84
1983	3,075	555	1,064	31,048	9.9	1.79
1984	3,011	543	1,039	31,510	9.55	1.72
1985	2737 [2]	497	951 [2]	30,590	8.94 [2]	1.62
1986	2576 [2]	473	965 [2]	29,317	8.79 [2]	1.61
1987	2,464 [2]	431 [2]	807 [2]	29208 [2]	8.43 [2]	1.47 [2]
1988	2354 [2]	447 [2]	777 [2]	29,634 [2]	7.94 [2]	1.51 [2]
1989 [2]	2,201	423	757	30,332	7.24	1.38
1990 [3]	2,138	424	736	30,520	7.01	1.39

a Suicide/sabotage accidents are excluded from rates.
[1] Exposure data estimate from FAA.
[2] Revised
[3] Preliminary
Source: National Transportation Safety Board.

X. AERONAUTICAL PRODUCTION AND IMPORTS/EXPORTS

The aircraft production information presented in this chapter was obtained from the Bureau of Census: Complete Aircraft Plant Report (Form M37G). The shipment data shows the number of civil aircraft shipped by the United States manufacturers and includes both aircraft shipped within the United States and those exported.

Import and export data were obtained from the Aerospace Industries Association of America, Inc. and were based on Bureau of the Census data from special monthly compilation of Annual Reports 246 and 446, respectively.

TABLE 10.1
TOTAL CIVIL AIRCRAFT PRODUCTION, WEIGHT, AND COST
CALENDAR YEARS 1981–1990

Calendar Year	Number of Aircraft	Airframe Weight (000lbs.)	Value Complete Aircraft ($000)	Average Complete Aircraft Cost
1981	10,114	89,076	13,195,029	1,304,630
1982	4,053	44,383	8,639,782	2,131,700
1983	2,784	44,936	9,915,761	3,561,696
1984	2,635	33,450	7,911,543	3,002,483
1985	2,457	40,872	10,939,831	4,452,516
1986	2,888	NA	12,517,992	4,334,485
1987	2,319	NA	12,491,743	5,386,394
1988	2,681	NA	16,019,855	5,975,328
1989	3,129	NA	17,467,335	5,582,402
1990	2,785	NA	24,864,289	8,927,931

NA No longer available

Source: U.S. Department of Commerce, Bureau of the Census, Industry Division.

TABLE 10.2
NUMBER OF SHIPMENTS OF COMPLETE CIVIL AIRCRAFT
1980–1989

Item	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Total	2,785	3,129	2,681	2,319	2,888	2,842	3,028	3,217	4,669	11,067
Fixed Wing	1,759	2,014	1,734	1,516	1,858	2,457	2,635	2,784	4,055	10,114
Single Engine	NA	NA	NA	NA	NA	1,551	1,578	1,697	2,546	6,825
Multiengine	NA	NA	NA	NA	NA	906	1,057	1,087	1,509	3,289
Rotorcraft	582	603	517	360	493	385	393	433	614	953
Other	444	512	430	443	537	NA	NA	NA	NA	NA

NOTE: Other includes balloons, dirigibles, airships, gliders, sailplanes, and aircraft sold in kits (except hang gliders).

NA Not available

Source: Current Industrial Reports: Complete Aircraft and Aircraft Engines, M37G-13; Department of Commerce, Bureau of the Census.

TABLE 10.3
NUMBER OF U.S. IMPORTS OF CIVIL AEROSPACE PRODUCTS
1981-1990

Item	1988	1987	1986	1985	1984	1983	1982	1981
Aircraft Used or Rebuilt, Civil	194	115	141	246	223	181	186	160
Helicopters, Civil	114	98	87	60	61	100	184	213
Aircraft, Single-Engine, Civil	40	41	71	46	21	6	23	9
Aircraft, Multiengine Under 4,400 lbs., Civil	3	1	18	8	33	18	13	2
Aircraft, Multiengine, 4,400 to 10,000 lbs., Civi	74	101	58	46	58	52	87	123
Aircraft, Multiengine, 10,000 to 33,000 lbs., Civil	152	155	150	103	95	93	159	218
Aircraft, Multiengine, Over 33,000 lbs., Civil	18	22	36	29	12	7	8	8
Balloons, and Airships, Civil	0	0	0	0	0	0	0	0
Gliders, Civil	111	117	181	628	448	229	200	119

NOTE: Categories were changed to reflect Commerce Department's change to the Hatmonized Trade Schedule. Historical data is not available in these new categories.

Item	1989	1990
Complete Aircraft	674	1,262
Transports	36	30
Passenger	33	30
Cargo	---	0
Other Combinations	3	0
General Aviation	213	743
Single Engine	59	522
Multi Engine	154	221
Small	1	5
Medium	27	53
Large	126	163
Turbojet/Turbofan	39	63
Others	87	100
Helicopters	124	167
Small	9	21
Large	115	146
Others	301	322
Used/Rebuilt	210	130
New	91	192

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-410.

TABLE 10.4
NUMBER OF U.S. EXPORTS OF CIVIL AEROSPACE PRODUCTS
1981-1990

Item	1988	1987	1986	1985	1984	1983	1982	1981
Aircraft Used or Rebuilt, Civil	1,644	969	494	277	304	224	242	501
Aircraft Helicopter, New, Under 2200 lbs., Civil	161	129	104	68	155	141	162	268
Aircraft, Helicopter, New, Over 2200 lbs., Civil	119	152	106	69	78	75	92	185
Aircraft, Single-Engine New Civil	459	307	220	334	271	279	539	1,800
Aircraft, Multiengine, New, Under 4400 lbs., Civil	51	51	63	66	53	106	167	371
Aircraft, Multiengine, New, Over 4400 lbs., Under 10,000 lbs., Civil	109	127	93	65	83	112	209	426
Aircraft, Multiengine, New, Over 10,000 lbs., Under 33,000 lbs., Civil	24	24	38	19	18	22	25	20
Aircraft, Passenger, New, Over 33,000 lbs., Civil	205	160	149	140	77	122	110	236
Aircraft, Cargo, New, Over 33,000 lbs., Civil	8	4	2	6	3	2	6	7
Aircraft Other, New, Over 33,000 lbs., Including Combinations, Civil	4	6	8	6	3	5	5	12
Aircraft Other, New, Including Balloons, Gliders & Kites, Civil	0	0	0	0	0	0	0	0

NOTE: Categories were changed to reflect Commerce Department's change to the Hatmonized Trade Schedule. Historical data is not available in these new categories.

Item	1989	1990
Complete Aircraft	6,452	4,814
Transports	260	297
Passenger	256	294
Cargo	1	3
Other Combinations	3	0
General Aviation	1,597	1,144
Single Engine	1,406	896
Multi Engine	191	248
Small	39	33
Medium	104	136
Large	48	79
Turbojet/Turbofan	35	63
Others	13	16
Helicopters	294	349
Small	186	266
Large	108	83
Others	4,301	3,024
Used/Rebuilt	1,700	1,911
New	2,601	1,113

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-410.

COMMON ACRONYMS

AAS	Airport Advisory Service
ADF	Automatic Direction Finder
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ASR	Airport Surveillance Radar
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
CAB	Civil Aeronautics Board
DME	Distance Measuring Equipment
DVFR	Defense Visual Flight Rules
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FSS	Flight Service Station
ICAO	International Civil Aviation Organization (Montreal, Canada)
IFR	Instrument Flight Rules
IFSS	International Flight Service Station
ILS	Instrument Landing System
LDA	Landing Directional Aid
LRNAV	Long Range Navigation
MLS	Microwave Landing System
NAS	National Airspace System
NAVAIDS	Navigation Aids
NOTAMS	Notice to Airmen
NTSB	National Transportation Safety Board
RNAV	Area Navigation
RSPA	Research and Special Programs Administration
VFR	Visual Flight Rules
VHR	Very High Frequency
VOR/VORTAC	Very High Frequence Omnidirectional Radio Range

GLOSSARY

Active Aircraft—All legally registered civil aircraft which flew one or more hours.

Aerial Application—See Primary Use.

Aerial Observation—See Primary Use.

Air Carriers—The commercial system of air transportation consisting of the certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

Certificated air carrier—An air carrier holding a Certificate of Public Convenience and Necessity issued by DOT to conduct scheduled services interstate. Nonscheduled or charter operations may also be conducted by these carriers. These carriers operate large aircraft (30 seats or more or a maximum payload capacity of 7,500 pounds or more) in accordance with FAR Part 121.

Air taxi—A classification of air carriers which transports in accordance with FAR part 135 persons, property, and mail using small aircraft (under 30 seats or a maximum payload capacity of less than 7,500 pounds).

Commuter air carrier—an air taxi operator which performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and points between which such flights are performed.

Supplemental air carrier (Charter)—An air carrier which holds Certificates of Public Convenience and Necessity issued by the DOT, authorizing performance of passenger and cargo interstate charter services supplementing the scheduled service of the certificated air carriers. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the DOT, scheduled operations including the transportation of individually ticketed passengers and individually waybilled cargo.

Commercial operator—a person who for compensation or hire engages in the intrastate carriage of aircraft in air commerce of persons or property other than as an air carrier or foreign air carrier.

Commercial operator of large aircraft—commercial operator operating aircraft with 30 seats or more or a maximum payload capacity of 7,500 pounds or more.

Aircraft Accident—As defined by the National Transportation Safety Board, it is "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."

Fatal Injury means any injury which results in death within 7 days of the accident.

Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, leasee, or bailee of an aircraft.

Serious Injury means any injury which (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial damage:

(1) Except as described below, substantial damage means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.

Exceptions: engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wingtips are not considered substantial for the purpose of this part.

Aircraft Contact—Aircraft with which the flight service stations (FSS) have established radio communications contact. One count is made for each enroute, landing, or departing aircraft contacted by an FSS regardless of the number of contacts made with an individual aircraft during the same flight. A flight contacting five FSS's would be counted as five aircraft contacted.

Aircraft Handled—See IFR Aircraft Handled.

Aircraft Type—A term used in this publication in grouping aircraft by basic configuration—fixed—wing, rotorcraft, glider, dirigible, and balloon.

Air Defense Identification Zone—The area of airspace over land or water within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

Airline Transport Pilot—See Pilot.

Airman—A pilot, mechanic, or other licensed aviation technician.

Airman Certificate—A document issued by the Administrator of the Federal Aviation Administration certifying that the holder complies with the regulations governing the capacity in which the certificate authorizes the holder to act as an airman in connection with aircraft.

Airport—An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airport Advisory Service (AAS)—A service provided by flight service stations at airports not served by a control tower. This service consists of providing information to landing and departing aircraft concerning wind direction and velocity, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures.

Airport Operation—an aircraft takeoff or landing. There are two types of operations—local and itinerant.

Local operations are performed by aircraft which:

(a) Operate in the local traffic pattern or within sight of the airport.

(b) Are known to be departing for, or arriving from, flight in local practice areas within a 20-mile radius of the airport.

(c) Execute simulated instrument approaches or low passes at the airport.

Itinerant operations are all airport operations other than local operations.

Airport Traffic—Aircraft operating in the air or on an airport surface exclusive of loading ramps and parking areas.

Airport Traffic Control Service—Air traffic control service provided by an airport traffic control tower for aircraft operating on the movement area and in the vicinity of an airport.

Airport Traffic Control Tower (ATCT)—A central operations facility in the terminal air traffic control system, which consist of a tower cab structure, including an associated IFR room if radar equipped, and uses air/ground communications, radar, visual signaling, and other services to provide safe and expeditious movement of terminal air traffic.

Airports Grants-in-Aid Program—A grant of funds by the Secretary of Transportation under the Airport & Airway Improvement Act of 1982 to a sponsor for the accomplishment of one or more projects.

Project—Projects (or separate projects submitted together) for the accomplishment of airport development or airport planning, including the combined submission of all projects which are to be undertaken at an airport in a fiscal year.

Sponsor—Any private owner of a public-use air OR any public agency (either individually or jointly with other public agencies) that submit to the Secretary of Transportation, in accordance with the Airport & Airway Improvement Act of 1982, an application for financial assistance.

Primary Airports—A commercial service airport which is determined to have .01 percent or more of the total number of passengers enplaned annually at all commercial service airports.

Commercial Airports—(also known as commercial service airports)—A public airport which is determined to enplane annually 2,500 or more passengers and receive scheduled passenger service of aircraft.

Reliever Airports—An airport designated as having the function of relieving congestion at a commercial service airport and providing more general aviation access to the overall community.

General Aviation Airports—(also known as public airports)—Any airport which is used or to be used for public purposes, under the control of a public agency, the landing area of which is publicly owned.

System Planning—(also known as integrated airport system planning)—The initial, as well as continuing development for planning purposes of information and guidance to determine the extent, type, nature, location, and timing of airport development needed in a specific area to establish a viable balanced, and integrated system of public-use airports.

Airports of Entry—Aircraft may land at these airports without prior permission to land from U.S. Customs.

Air Route Traffic Control Center (ARTCC)—A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, and principally during the enroute phase of flight.

Air Taxi—See Air Carrier and Primary Use.

Air Traffic Control (ATC)—A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air Traffic Control Facility—A facility which provides air traffic control services located in the U.S., its possessions and territories, and in foreign countries especially established by international agreement.

Air Traffic Hub—Air traffic hubs are not airports; they are the cities or twin cities requiring aviation services. The hubs fall into four classes as determined by each community's percentage of the total enplaned passengers all services and all operations U. S. certificated air carriers in the 50 States, the District of Columbia, and other U.S. areas.

Large air traffic hub—a community enplaning 1.00 percent or more of the total enplaned passengers.

Medium air traffic hub—a community enplaning from 0.25 to 0.99 percent of the total enplaned passengers.

Small air traffic hub—a community enplaning from 0.05 to 0.24 percent of the total enplaned passengers.

Nonhub—a community enplaning less than 0.05 percent of the total enplaned passengers.

American Flag Carrier—See U.S. Flag Carrier.

Approach Control Facility—A terminal area traffic control facility providing approach control service.

Approach Control Service—Air traffic control service provided by an approach control-facility for arriving and departing aircraft and, on occasion, tower enroute control service.

Business Transportation—See Primary Use.

Carrier Group—A grouping of certificated air carriers determined by annual operating revenues as shown below:

Carrier Group	Annual Operating Revenues
Majors	$1,000,000,000+
Nationals	$100,000,000 - $1,000,000,000
Large regionals	$10,000,000 - $99,999,999
Medium regionals	0 - $9,999,999 or that operate aircraftwith 60 or less seats or maximum payload capacity of 18,000 lbs.

Certificated Route Air Carrier—See Air Carrier.

Commercial Operator—See Air Carrier.

Commercial Pilot—See Pilot.

Commuter Air Carrier—See Air Carrier.

Defense Visual Flight Rules (DVFR)—A flight within an Air Defense Identification Zone conducted under the visual flight rules in Federal Aviation Regulation, Part 99.

Domestic Operations—In general, operations within and between the 50 States, and the District of Columbia.

Executive Transportation—See Primary Use.

Flight Plan—Specified oral or written information about the intended flight of an aircraft that is filed with air traffic control.

Flight Service Station (FSS)—Air traffic Service facilities within the National Airspace System (NAS) which provide preflight pilot briefings and en route communications with VFR flights, assist lost IFR/VFR aircraft, assist aircraft having emergencies, relay Air Traffic Control clearances, originate, classify, and disseminate Notices to Airmen, broadcast aviation weather and NAS information, receive the close flight plans, monitor radio NAVAIDS, notify search and rescue units of missing VFR aircraft, and operate the national weather teletypewriter system. In addition, at selected locations, FSSs take weather observations, issue airport advisories, administer airmen written examinations, and advise Customs and Immigration of across-the-border flights.

Flight Services—The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted. See tables 2.6 and 2.14.

Foreign Flag Air Carrier—An air carrier other than a U.S. flag air carrier engaged in international air transportation (see also U.S. Flag Carrier).

Foreign Mail—Mail transported outside the United States by U.S. flag carriers for a foreign government.

General Aviation—That portion of civil aviation which encompasses all facets of civil aviation except air carriers.

Heliport—An area of land, water, or any structure used or intended to be used for the landing and takeoff of helicopters.

Hub—See Air Traffic Hub.

IFR Aircraft Handled—The number of IFR departures multiplied by two plus the number of IFR overs. This definition assumes that the number of departures (acceptances, extensions, and originations of IFR flight plans) is equal to the number of landings (IFR flight plans closed).

IFR Departure—An IFR departure includes IFR flights originating in center's area, accepted by the center under SOLE EN ROUTE clearance procedures, and extended by the center.

IFR Over—An IFR flight that originates outside the ARTCC area and passes through the area without landing.

Inactive Aircraft—All legally registered civil aircraft which flew zero hours.

Instructional Flying—See Primary Use.

Instrument Approach—An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

Instrument Flight Rules (IFR)—Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

Instrument Landing System (ILS)—A precision instrument approach system which normally consists of the following electronic and visual aids:

Localizer—Provides course guidance to the runway.

Glide Slope—Provides vertical guidance during approach.

Marker Beacon—Provides aural and/or visual identification of a specific position along an instrument approach landing.

Instrument Operation—An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.

International Flight Service Station (IFSS)—A central operations facility in the flight advisory system, staffed and equipped to control aeronautical point-to-point telecommunications, and air-ground telecommunications with pilots operating over international territory or waters, which provides flight plan following, weather information, search and rescue action, and other flight assistance operations.

International Operations—In general, operations outside the territory of the U.S., including operations between the U.S. and foreign countries, and the U.S. and its territories or possessions. Includes both the

combination passenger/cargo carrier and the all-cargo carriers engaged in international and territorial operations.

Itinerant Operation—See Airport Operation.

Jet Route—A route designed to serve aircraft operations from 18,000 feet to 45,000 feet.

Landing Rights Airports—Any aircraft may land at one of these airports after securing prior permission to land from U.S. Customs.

Large Air Traffic Hub—See Air Traffic Hub.

Large Regional Carrier—See Carrier Groups.

Large Certificated Air Carrier—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, or conducting international operations.

Local Operation—See Airport Operation.

Major Carriers—See Carrier Groups.

Medium Air Traffic Hub—See Air Traffic Hub.

Medium Regional Carrier—See Carrier Groups.

Microwave Landing System (MLS)—An instrument landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft having compatible avionics equipment.

National Carriers—See Carrier Groups.

Nonhub—See Air Traffic Hub.

Notice to Airmen—A notice containing information concerning the establishment, condition or change in any component of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

Other—See Primary Use.

Other Work Use—See Primary Use.

Over—See IFR Over.

Personal Flying—See Primary Use.

Pilot—

Student Pilot—A student pilot may not operate an aircraft that is carrying a passenger or that is carrying property for compensation or hire.

Private Pilot—A private pilot may not act as a pilot-in-command of aircraft that is carrying passengers for compensation or hire nor act as pilot-in-command in an aircraft that is being operated for compensation or hire (e. g.; one that has been hired to do pipeline patrol but carries no passengers.)

Commercial Pilot—A commercial pilot may act as pilot-in-command of an aircraft carrying passengers for compensation or hire and act as pilot-in-command in an aircraft that is being operated

for compensation or hire (e. g.; one that has been hired to do pipeline patrol but carries no passengers.)

Airline Transport Pilot—An airline transport pilot may act as a pilot-in-command of an aircraft engaged in air carrier service.

Pilot Briefing—Information furnished a pilot to assist in flight planning. Principal items are weather conditions, notices to airmen, routes, and preparation and handling of the flight plan.

Primary Use—The use category in which an aircraft flew the most hours. The eleven use categories are defined below:

Aerial Application—Any use of an aircraft for work purposes which concerns the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes fire fighting operations, the distribution of chemicals or seeds in agriculture, reforestation, or insect control.

Aerial Observation—Any use of an aircraft for aerial mapping/photography, survey, patrol, fish spotting, search and rescue, hunting, highway traffic advisory, or sightseeing; not included under Part 135.

Commuter Air Carrier—An air taxi that performs at least five scheduled round trips per week between two or more points or carries mail.

Demand Air Taxi—Use of an aircraft operating under Federal Aviation Regulations, Part 135, passenger and cargo operations, including charter and excluding commuter air carrier.

Business Transportation—Use of an aircraft not for compensation or hire by individuals for the purposes of transportation required by business in which they are engaged.

Executive/Corporate Transportation—Any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.

Instructional Flying—Any use of an aircraft for the purpose of formal instruction with the flying instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor; excludes proficiency flying.

Personal Flying—Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.

Other Work Use— Any aircraft used for construction work (not included under Part 135), helicopter, hoist, towing gliders, or parachuting.

Other—Any other use of an aircraft not included above. (Example: experimentation, R&D; testing, demonstration, government).

Private Pilot—See Pilot.

Private-Use Airport—An airport which is not open for the use of the general public.

Privately Owned Airport—An airport which is owned by a private individual or corporation.

Public-Use Airport—An airport open to for public use without prior permission, and without restrictions within the physical capacities of available facilities. May or may not be publicly owned.

Publicly Owned Airport—An airport which is publicly owned and under control of a public agency.

Radar Altimeter—Aircraft instrument that makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

Small Air Traffic Hub—See Air Traffic Hub.

Small Certificated Air Carrier—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum seating capacity of 60 or less seat or a maximum payload of 18,000 pounds or less.

Stolport—An airport specifically designed for STOL (Short Take-off and Landing) aircraft, separate from conventional airport facilities.

Student Pilot—See Pilot.

Supplementat Air Carrier—See Air Carrier.

Terminal Area—A general term used to describe airspace in which approach control service or airport traffic control service is provided.

Tower—See Airport Traffic Control Tower.

U.S. Flag Carrier or American Flag Carrier—One of a class of air carriers holding a Certificate of Public Convenience and Necessity issued by the DOT, approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries. (See also Foreign Flag Air Carrier.)

VFR Flight—Flight conducted in accordance with Visual Flight Rules.

VHF Communications—Provides radio voice communications between aircraft and ground stations, also between aircraft. Very high Frequency (VHF) is limited in range (line of sight) and usually used for air traffic communications.

VOR—Very high frequency omnidirectional radio range. Used as the basis for navigation in the national Airspace System.

VORTAC—A navigation aid providing azimuth and distance measuring equipment as one site.

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